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SPAIN.

By Consul General Carlton Bailey Hurst, Barcelona.

The total foreign commerce of Spain during 1917 amounted to $473,712,150, of which $239,110,098 was the value of imports and $234,602,052 the value of exports, compared with a total trade of $479,672,322 in 1916, of which $230,664,231 represented imports and $249,008,091 exports. The balance of trade during 1917 was against Spain by $4,508,046 and in 1916 in Spain's favor by $18,343,860.

The 1917 imports include $106,339,379 in gold bullion and coin as against $63,968,257 worth in 1916. Eliminating the value of the imports and exports of gold and silver in bullion and coin, the balance of trade was in Spain's favor in 1917 by $99,723,795 compared with $81,821,207 in 1916.

Excluding gold and silver, the imports decreased from $164,424,496 in 1916 to $132,488,042 in 1917; and the exports decreased from $246,245,703 in 1916 to $232,211,438 in 1917.

During 1916 the balance of trade between the United States and Spain was in favor of the United States by a larger margin than during the two previous years. The United States assumed the first position in Spain's source of supplies, and the United Kingdom second, followed by France. As purchasers of Spanish products, France continued to lead, as in the two previous years, followed by the United Kingdom, the United States and possessions, and Argentina.

Origin of Imports Into Spain.

The chief countries of origin of the leading imports into Spain are shown in the following table, which was compiled from the Estadistica General del Comercio Exterior de España for 1916:

Articles.	United States.	Argentina.	France.	Great Britain.	Netherlands.
Agricultural implements	$1,130,260	$19	$94,120	$134,877	$161
Automobiles and parts	529,978	.....	158,472	71,825	.....
Breadstuffs:					
Maize or corn	137	3,090,012	13	.....	.....
Wheat	9,334,198	2,613,281	14	568	.....
Coal	227,611	.....	5,694	9,209,395	.....
Copper wire	791,200	.....	3,957	20,822	.....
Cotton, unmanufactured	21,910,265	.....	156	242,405	.....
Fish, cod	168	.....	43,586	1,330,539	.....
Hides and skins	23,800	1,243,457	55,733	36,234	.....
India-rubber tires	66,370	.....	1,026,661	862,930	.....
Motors, locomotives, etc.:					
Electric motors and dynamos	579,179	17	170,694	342,421	34,622
Locomotives, tenders, and parts	560,303	.....	940	97,724	6,711
Typewriters	506,522	.....	7,459	14,918	.....
Oil: Petroleum	1,422,075	.....	.....	1,928	.....
Seeds: Flax, sesame, etc	.....	870,615	106,900	43,692	.....
Tallow and other animal fats	17,535	482,628	186,620	494,582	.....
Vessels: Steamers	77,911	.....	.....	829,254	.....

Leading Articles Imported in 1916 and 1917.

The table which follows is based on the Resúmenes Mensuales de la Estadistica del Comercio Exterior de España for December, 1917, and shows the quantity in metric tons (2,204.6 pounds) and the value of imports into Spain during 1916 and 1917.

Articles.	1916		1917	
	Tons.	Value.	Tons.	Value.
Animals, live:				
Horses	[a] 776	$145,859	[a] 1,484	$225,465
Mules and jennets	[a] 3,776	278,513	[a] 7,481	539,322
Agricultural implements	7,850	1,526,089	3,539	688,054
Breadstuffs:				
Barley and other cereals	32	880	1,601	43,228
Maize	108,056	3,112,036	55,357	1,594,272
Wheat	314,906	11,470,316	50,570	2,002,368
Cars, carriages, other vehicles, and parts:				
Automobiles and parts	1,120	833,498	2,063	1,635,872
Cars, passenger and freight, and parts	99	15,857	2,886	363,344
Bicycles, motorcycles, and parts	129	303,579	168	394,503
Carriages, and other vehicles, and parts	21	4,928	15	2,636
Chemicals, drugs, dyes, and medicines:				
Dyes, etc	15,001	1,989,609	8,313	1,529,496
Drugs, chemicals, and other medicines	41,061	3,854,735	19,910	2,649,789
Clocks, watches, and parts: Watches	[a] 367,389	1,340,917	[a] 418,830	1,447,206
Coal and coke:				
Coal	2,017,243	9,440,497	1,094,806	5,119,433
Coke and briquettes	134,047	876,896	73,362	462,181
Cacao	7,503	2,621,078	8,028	2,841,930
Coffee	16,383	5,714,285	18,227	6,396,696
Cork, bark, slabs, and granulated	4,630	224,907	2,423	117,743
Copper wire	2,218	825,104	2,630	970,720
Cotton and manufactures of:				
Unmanufactured	102,127	27,574,368	96,871	26,146,267
Manufactures of	1,579	2,517,024	1,671	2,921,220
Eggs	752	221,207	1,414	414,916
Electric lamps, including bulbs	42	403,479	33	307,254
Explosives	579	338,859	5	2,840
Fertilizers:				
Nitrate of soda	42,015	1,815,067	52,324	2,260,413
Phosphate of lime, natural	288,328	1,661,128	130,323	750,663
Other	89,318	2,895,193	23,686	609,222
Fibers, vegetable and textile grasses:				
Unmanufactured	35,197	2,625,150	31,400	2,236,105
Manufactures of	3,082	693,148	1,292	490,050
Fish, cod	34,237	4,683,691	24,794	3,391,869
Fruits and nuts	5,366	741,920	9,010	1,241,432
Glass and glassware	1,597	317,736	1,516	256,718
Hides and skins	10,291	6,421,648	11,677	5,683,761
India rubber, gutta-percha, and substitutes:				
Unmanufactured	1,697	1,986,278	1,337	1,564,398
Tires	578	2,030,837	493	1,730,823
Other manufactures	484	889,507	473	1,066,216
Insecticides, including sulphate of copper	4,054	394,143	212	20,650
Iron and steel, manufactures of:				
Wire, including cables	6,825	391,135	2,287	153,410
Wire, covered, electric	67	43,815	102	57,342
Machinery—				
Electric motors and dynamos	2,713	1,652,769	2,397	1,452,565
Gas and steam engines	848	235,134	651	221,386
Hydraulic motors	861	201,370	552	129,125
Locomotives and tenders	2,890	683,626	2,830	701,267
Tools	3,535	847,177	3,656	872,015
Pumps	350	136,870	276	107,721
Sewing and embroidery	2,060	603,787	1,359	454,575
Typewriters	91	536,903	132	775,306
Other	12,901	3,384,911	7,029	1,896,542
Wheels, iron and steel	3,256	187,540	3,621	213,714
Kitchen utensils	649	296,370	276	123,963
Leather, tanned skins, and manufactures of	550	1,725,522	393	1,353,309
Lime and cement	12,555	122,041	2,579	25,070
Meat and dairy products:				
Birds for food	384	110,526	94	27,126
Butter and substitutes	353	172,116	254	124,049
Cheese	659	256,923	186	72,077
Milk, condensed	3,724	1,085,848	3,030	883,685
Sausage casings	1,976	771,679	2,338	913,169
Tallow and other animal fats	9,039	1,422,971	8,863	1,387,932

[a] Number.

Articles.	1916		1917	
	Tons.	Value.	Tons.	Value.
Oils:				
Lubricating	12,353	956,149	8,751	677,331
Petroleum	35,824	1,435,904	34,800	1,390,838
Paper, and manufactures of, including pulp	70,335	2,390,699	35,405	1,686,799
Paraffin	6,747	1,190,284	5,275	930,679
Seeds:				
Flaxseed or linseed, sesame seed, etc	47,472	3,845,203	35,090	2,842,286
Other, including carobs	1,839	109,266	1,212	71,987
Silk, and manufactures of:				
Unmanufactured	103	807,999	106	802,808
Floss	245	716,661	173	505,747
Fabrics	159	2,047,474	133	1,588,078
Other manufactures	117	987,324	134	1,547,011
Telegraph and telephone materials	288	843,842	206	602,313
Tobacco, and manufactures of:				
Unmanufactured	15,192	3,228,984	18,752	2,991,749
Manufactures	106	437,379	150	640,335
Tin and manufactures of	1,502	903,688	1,288	769,922
Vegetables:				
Chick-peas	4,624	449,548	1,202	116,870
Other, fresh, preserved, and dried	4,328	140,546	5,550	161,187
Vessels and docks:				
Steamers	11,630	906,735	13,324	1,035,721
Other	8,726	430,573	9,374	647,046
Wood, and manufactures of:				
Planks and boards—				
Common	[a] 381,423	3,819,335	[b]169,363	1,656,380
Fine	5,306	276,791	4,410	221,072
Poles and posts	23,051	414,925	6,773	121,908
Railway sleepers	1,460	23,652	375	6,078
Staves	50,146	992,887	47,105	932,687
Wool:				
Unmanufactured	14,936	2,689,173	8,339	1,067,226
Manufactures of	372	797,427	455	1,192,573
Gold	[b]3,526,916	63,968,257	[b]5,932,122	106,339,379
Silver	[b]2,175,519	2,271,478	[b]355,196	282,677
All other articles		15,932,029		16,312,698
Total		230,664,231		239,110,098

[a] Cubic yards. [b] Troy ounces.

Decrease in Imports.

Lessened importation of raw materials, manufactured articles, and foodstuffs during 1917 was the natural outcome of the abnormal trade conditions caused by the war. Of dyes, coal, coke, and briquettes, natural phosphate of lime and other fertilizers, insecticides, lime and cement, lubricating oils, wood and manufactures, and poles and posts nearly half or, in many cases, less than half the quantity imported in 1916 was received in 1917. The decrease in the imports of paper and manufactures, including pulp, is accounted for by the smaller quantity of pulp arriving from abroad. The manufactured articles among which the lessened import was most notable were iron and steel wire (including cables), sewing and embroidery machines, and other machinery. The falling off in foodstuffs was most marked in corn, wheat, codfish, meat, dairy products, and chick-peas. Increases were noted in the imports of mules, automobiles and parts, watches, cocoa, coffee, nitrate of soda, hides and skins, and ships. The greatest value of any single item of import was that of gold, which in 1917 showed an increase of 66 per cent over that of 1916.

Destination of Exports.

In the table following, taken from the Estadistica General del Comercio Exterior de España for 1916, are shown the values of the

leading articles exported to the principal purchasing countries in 1916:

Articles.	United States.	Argentina.	Cuba.	France.	Great Britain.
Copper:					
Ore	$22,243			$103	$136,564
Precipitate					2,366,445
Bars	73,201			73	4,162,179
Cork, and manufactures of	1,256,235	$313,978	$92,444	1,563,187	1,308,438
Cotton, and manufactures of	24,514	4,018,748	2,449,366	1,670,035	9,537
Fish:					
Sardines	25,852	25,633	3,969	107,953	6,616
Other	65,763	54,614	1,687	155,247	18,886
Fruits and nuts:					
Grapes	906,558	3,916	4,071	80,185	1,747,348
Oranges	34,344	13,841	1	1,900,429	5,881,176
Olives	2,611,167	114	161	4,596	29,093
Raisins	117,271	31,171	52,779	388,925	935,364
Almonds	1,318,105	104,874	151,692	294,846	1,011,049
Hemp shoes	1,369	11,718	538,248	108,478	483
Hides and skins	1,436,570	76		614,770	101,773
Iron:					
Ore	231,250	196	20	805,898	8,951,606
Pyrites	2,672,235			1,434,581	2,012,196
Iron and steel manufactures	1,833	73,646	17,265	5,605,855	45,668
Lead, in pigs		216,183		4,981,060	6,230,010
Oil, olive	1,759,288	1,873,431	1,339,781	2,667,114	1,601,330
Onions	497,681	3,453	48,791	190,319	1,891,470
Wine:					
Common, red and white	55,000	353,251	608,311	15,096,290	262,960
Fine, red and white	9,315	116,621	35,651	206,059	5,228
Sherry and similar type	323,449	160,478	165,583	421,043	504,077
Malaga and similar type	49,235	5,821	92,634	894,286	1,011,020
Wool:					
Unmanufactured	519,925			410,220	77,735
Manufactures of	2,045	533,804	162,597	11,723,010	7,810

Principal Articles of Export.

The following figures showing the quantity and value of the principal articles exported from Spain to all countries during the years 1916 and 1917 are tabulated from the Resúmenes Mensuales de la Estadistica del Comercio Exterior de España for December 1917:

Articles.	1916		1917	
	Tons.	Value.	Tons.	Value.
Animals, live:				
Horses, mules, and jennets	[a] 20,891	$1,601,901	[a] 7,804	$617,098
Cows	[a] 4,748	222,206	[a] 101	4,727
Automobiles	[a] 32	34,560	[a] 43	46,440
Breadstuffs:				
Rice	34,422	2,664,287	30,189	2,336,632
Wheat flour	10,437	676,431	311	20,179
Chemicals, drugs, dyes, and medicines:				
Glycerin	840	181,502	1,004	216,820
Rosin	10,351	465,829	9,436	424,600
Saffron	87	1,563,912	112	2,020,770
Tartar, crude	7,335	620,506	5,850	494,941
Copper, and manufactures of:				
Ore	45,626	154,765	31,326	110,582
Precipitate of copper	11,432	2,366,444	11,763	2,434,985
Bars	12,895	3,709,145	18,897	5,442,402
Cork, and manufactures of	51,483	6,114,804	47,045	5,481,964
Cotton, and manufactures of:				
Knitted goods	2,005	4,554,957	1,894	4,354,881
Piece goods	10,621	12,166,600	13,612	14,198,078
Thread	5,593	4,934,267	5,064	4,557,304
Fertilizers	12,004	324,116	7,437	200,794
Fibers, vegetable and textile grasses, and manufactures of:				
Esparto, unmanufactured	34,088	674,959	23,324	461,809
Hemp shoes	[b] 730,489	1,117,648	1,475,384	2,257,338
Other manufactures of	5,570	1,671,274	5,776	1,488,658

[a] Number. [b] Dozen.

Articles.	1916		1917	
	Tons.	Value.	Tons.	Value.
Fish:				
Sardines	20,397	$4,252,671	18,220	$3,617,366
Other	8,961	2,469,891	18,037	4,514,026
Fruits and nuts:				
Grapes	46,319	2,918,113	16,790	1,057,750
Oranges	382,730	8,276,963	246,393	5,322,092
Olives	23,986	3,238,117	16,741	2,260,046
Raisins	19,092	1,890,141	8,563	847,731
Almonds	9,772	3,093,475	9,068	2,610,610
Filberts	5,332	719,815	7,039	950,314
Glass and glassware	13,998	484,631	11,649	1,147,108
Hides and skins	7,083	2,276,486	5,014	2,437,903
Iron:				
Ore	5,148,000	10,193,291	5,137,621	10,172,490
Pyrites	2,743,000	6,419,759	1,964,937	4,597,953
Iron and steel, manufactures of	117,667	6,696,218	76,200	5,100,619
Lead, in pigs	173,345	12,205,250	154,979	10,947,565
Leather, and manufactures of:				
Shoes	873	2,513,211	831	2,392,442
Skins, tanned	5,497	7,644,835	4,654	6,630,045
Oil, olive	88,852	15,993,363	81,570	14,682,527
Paper, and manufactures of	15,985	2,641,646	6,653	1,578,770
Pepper	5,378	774,443	5,218	751,409
Pipes and smokers' articles: Cigarette paper	2,524	976,859	3,604	1,394,779
Quicksilver	1,276	1,263,460	650	643,498
Salt	425,022	765,040	274,394	493,909
Silk, and manufactures of	167	770,746	150	853,059
Silver:				
Bullion and coin	[a] 3,590,775	2,708,425	[a] 2,973,720	2,387,404
Jewelry	[a] 447,158	625,882	[a] 236,852	331,474
Sphalerite or blende	59,734	537,607	33,832	304,492
Spirits, wines, and other beverages:				
Mineral water	2,429	306,035	2,825	355,909
Wine—				
Common, red and white	[b] 105,617,517	18,800,690	[b] 156,941,431	27,265,388
Fine, red and white	[b] 1,335,432	822,873	[b] 623,545	381,982
Sherry and similar type	[b] 4,522,193	2,564,232	[b] 2,747,354	1,625,900
Malaga and similar type	[b] 5,906,709	3,219,868	[b] 5,935,952	3,231,421
Spirits and liquors	[b] 1,136,882	2,322,944	623,730	1,273,158
Sugar	2,408	390,074	2	415
Tiles	20,733	642,252	12,842	402,555
Turpentine	3,735	927,948	4,115	1,022,237
Vegetables:				
Chick-peas	5,945	642,018	8,937	965,254
Garlic	7,489	606,627	5,643	457,095
Onions	148,005	2,564,107	189,732	3,415,180
Potatoes	53,244	1,437,582	24,503	661,582
Other	45,213	2,094,765	11,972	683,591
Wood, and manufactures of:				
Logs	51,630	650,540	3,154	39,746
Casks	13,097	815,100	9,015	567,942
Other manufactures of	3,965	904,502	2,161	523,603
Wools:				
Unmanufactured	5,293	2,485,781	8,318	4,915,120
Blankets	6,364	11,455,786	4,780	8,604,043
Knitted goods	529	1,523,669	100	287,168
Cloth	424	1,527,861	32	114,314
Other manufactures	2,625	6,404,731	2,055	3,193,332
Zinc, in pigs and sheets	4,856	611,862	7,235	911,653
All other articles	.....	37,515,563	.....	38,505,001
Total	.....	249,008,091	.....	234,602,052

[a] Troy ounces. [b] Gallons.

Decrease in Many Exports.

The demand for Spanish merchandise during 1917 was far greater than could be supplied to foreign countries owing to export prohibitions and lack of carrying facilities. The result was decreased exportation compared with 1916, although somewhat increased compared with 1915. The greatest falling off is seen in the export of foodstuffs, followed by manufactured articles and raw materials. Among the staple exports of Spanish foodstuffs the decrease was notable in rice, sardines, grapes, oranges, olives, raisins, olive oil,

sherry, spirits and liquors, potatoes, beans, lentils, and tomatoes. As there are whole districts in this country which practically depend on the world's markets for the consumption of these crops, the lessened exports caused suffering to cultivators. The few exceptions, such as filberts and chick-peas, did not compensate for losses in 1915. The manufactured articles most keenly affected were cork manufactures, goods of fibers and textile grasses, glass and glassware, hides and skins, iron and steel manufactures, paper and paper goods, tiles and casks. Exceptions were copper bars, cotton piece goods, and above all hemp shoes. Exports of iron pyrites, copper ore, blende, and quicksilver declined, and zinc in pigs and sheets and copper bars increased. Shipments of raw wool also show increases.

Declared Exports to United States and Possessions.

The value of Spanish goods exported to the United States and possessions from the Peninsula and the Balearic and Canary Islands amounted in 1915 to $20,463,392, in 1916 to $35,643,475, and in 1917 to $37,606,415.

The declared values of exports to the United States, the Philippines, Porto Rico, and Hawaii during 1916 and 1917, as invoiced at the American consulates and consular agencies in Spain and the Balearic and Canary Islands, are given as follows:

Consular district.	To United States.		To Philippine Islands.		To Porto Rico.		Total.	
	1916	1917	1916	1917	1916	1917	1916	1917
Barcelona	$6,773,197	$6,818,192	$725,224	$725,223	$335,470	$335,470	$7,833,891	$7,878,885
Corunna	15,213	13,900	677		29,385	15,624	45,305	29,524
Palamos	867,029	1,458,492					867,029	1,458,492
Palma de Mallorca	250,143	390,738	2,795	1,606	76,418	69,440	329,356	461,784
Tarragona	1,496,027	2,472,709	1,865	1,819	1,310	831	1,499,202	2,474,859
Vigo	70,112	129,128	97,793	63,530	16,653	7,380	184,558	200,038
Bilbao	1,973,270	1,360,463	8,039	6,765	19,225	14,224	2,000,534	1,381,452
Gijon		5,542						5,542
Jerez de la Frontera	273,210		21,141		17,260		311,611	
Madrid	879,495	587,188	73,149	70,824	17,437	10,636	970,081	668,648
Malaga	2,784,362	4,809,673	9,766	7,397	39,326	119,391	2,833,454	4,936,461
Almeria	1,957,579	2,020,356					1,957,579	2,020,356
Santander		66,224						66,224
Seville		4,444,653		45,930		196,613		4,687,196
Cadiz	12,202,553	802,608	79,274	60,457	167,655	17,132	12,449,777	880,197
Huelva		5,428,531						5,428,531
Teneriffe	118,658	232,564			19,586	26,715	138,244	259,279
Las Palmas	26,039	47,365			20,815	14,608	46,854	61,973
Valencia	1,956,604	2,429,565	502	296	63,043	26,657	2,020,149	2,456,518
Alicante	2,125,301	2,215,601	2,532	1,983	28,018	32,872	2,155,851	2,250,456
Total	33,768,822	35,739,492	1,022,757	985,330	851,601	887,593	35,643,475	37,606,415

The total commerce between the United States and Spain, including imports and exports, amounted in value in 1913 to $43,142,524; in 1914 to $38,009,180; in 1915 to $64,873,576 and in 1916 to $98,899,874, exclusive of the Philippines and Porto Rico. Aside from specie, the leading import from the United States is raw cotton. The purchase of American wheat, which before the war was unimportant developed in 1915 and 1916 to over $9,000,000, annually. Copper wire, iron manufactures, hides and skins, typewriters, agricultural implements, locomotives, tenders and automobiles were imported in increased quantities.

The exports from Spain to the United States showed an appreciable increase in iron ore and pyrites, raw wool, hides and skins,

almonds, olives, and olive oil, while cork and its manufactures and copper bars decreased notably.

Important Articles of Trade Between Spain and the United States.

As illustrating the growth of Spain's trade with the United States and possessions, the figures for imports and exports of articles which amounted during at least one of the past four years to over $250,000 have been assembled from official sources and given in the following tables. The classification comprises 180 articles, of which the more important are selected.

Articles	1913	1914	1915	1916
IMPORTS FROM UNITED STATES.				
Coal	$169,451	$102,008	$380,025	$274,477
Petroleum	1,557,575	1,327,370	1,436,048	1,422,075
Oleonaphthas, etc	587,147	461,814	772,273	888,555
Phosphate of lime	399,671	404,720	429,556	406,876
Iron, and manufactures of	529,282	93,577	282,086	1,128,107
Copper wire	159,823	75,422	382,217	748,960
Paraffin	578,855	458,786	1,052,104	1,033,970
Cotton, unmanufactured	18,420,846	15,957,143	32,143,402	21,910,265
Wood, and manufactures of	2,587,474	1,752,011	1,095,504	1,509,586
Hides and skins	267,045	192,817	612,562	811,678
Typewriters	278,326	191,757	249,368	506,522
Agricultural implements	228,316	704,711	434,576	1,130,260
Electric motors and dynamos	982,821	714,404	150,426	579,179
Locomotives and tenders	39,015	.....	14,331	560,303
Automobiles	138,863	77,989	153,308	492,262
Pork: Bacon	15,182	8,131	147,240	560,620
Wheat	20,888	2,332,595	9,937,320	9,334,198
Tobacco	1,078,381	314,740	265,574	647,956
Cartridges	.....	.....	10,439	551,606
Vessels: Steamers	.....	.....	1,091,702	252,972
Gold in coin	.....	80,539	46,829	31,668,288
All other articles	2,108,480	1,498,964	2,511,466	5,256,435
Total	30,147,441	26,549,498	53,598,356	81,675,150
EXPORTS TO UNITED STATES.				
Sphalerite	.....	.....	.....	368,628
Iron, ore and pyrites	1,829,275	1,676,550	2,133,048	2,903,486
Wool	.....	39,551	146,609	519,925
Cork, and manufactures of	1,563,300	2,001,804	2,110,046	1,255,920
Hides and skins	36,764	103,508	668,793	1,464,314
Almonds	741,464	543,533	1,078,521	1,318,106
Olives	699,641	1,443,378	744,407	2,611,167
Grapes	1,092,226	783,606	413,153	906,558
Olive oil	140,854	342,584	559,159	1,759,289
Wines	246,157	230,909	223,852	429,744
Vegetables:				
Prepared or preserved	171,421	258,580	285,234	471,483
Onions	299,489	194,631	269,209	497,681
Copper in bars	5,043,822	2,491,419	1,049,770	73,201
All other articles	1,130,670	1,329,629	1,593,439	2,645,222
Total	12,995,083	11,479,682	11,275,220	17,224,721
IMPORTS FROM PORTO RICO.				
Coffee, unroasted	1,371,334	1,253,302	1,599,116	1,250,657
All other	42,548	68,330	66,205	63,679
Total	1,413,882	1,321,632	1,665,321	1,314,336
EXPORTS TO PORTO RICO.				
Total	450,489	558,660	383,127	494,557
IMPORTS FROM PHILIPPINE ISLANDS.				
Seeds of sesame, flax, etc	904,570	897,431	1,734,389	946,795
Leaf tobacco and cigars	2,911,147	2,352,349	2,157,403	2,288,706
All other	36,292	48,783	63,797	109,369
Total	3,852,009	3,298,563	3,955,589	3,344,870
EXPORTS TO PHILIPPINE ISLANDS.				
Dyed cotton cloth and knitted cotton goods	613,453	362,785	119,618	32,543
Sardines	12,314	226,813	52,096	82,384
All other	643,302	643,081	762,293	871,078
Total	1,269,069	1,232,679	934,007	986,005

Changes in Spanish Commerce During Four Years.

Of particular value in studying the influence of the war on Spanish commerce is the rearrangement during four years of the leading markets for Spanish products and the sources of supplies. The imports and exports during 1914, 1915, and 1916 contrasted with 1913 are shown in the following table compiled from official returns:

IMPORTS.		EXPORTS.	
1913		1913	
Great Britain	$44,040,000	France	$58,994,000
France	36,840,000	Great Britain	41,683,000
Germany	33,366,000	Germany	13,395,000
United States	30,147,000	United States	12,996,000
Argentina	19,975,000	Argentina	12,774,000
All other	90,321,000	All other	75,261,000
Total	254,689,000	Total	215,103,000
1914		1914	
Great Britain	39,509,000	France	45,152,000
United States	26,549,000	Great Britain	41,896,000
France	24,166,000	United States	11,460,000
Germany	19,462,000	Cuba	9,356,000
Russia	8,512,000	Italy	9,117,000
All other	81,756,000	All other	52,776,000
Total	199,954,000	Total	169,757,000
1915		1915	
Great Britain	[a] 65,406,000	France	95,592,000
United States	[b] 53,598,000	Great Britain	47,459,000
France	[c] 16,870,000	Italy	14,446,000
Argentina	15,549,000	Argentina	12,280,000
British dominions in Asia	11,451,000	United States	11,275,000
All other	54,339,000	All other	45,439,000
Total	217,213,000	Total	226,491,000
1916		1916	
United States	[d] 81,675,000	France	102,012,000
Great Britain	[e] 58,694,000	Great Britain	51,339,000
France	[f] 19,848,000	United States	17,225,000
Argentina	10,806,000	Argentina	15,275,000
British dominions in Asia	9,182,000	Italy	13,847,000
All other	58,973,000	All other	56,941,000
Total	239,178,000	Total	256,639,000

[a] Includes $36,128,743 in gold coin.
[b] Includes $46,829 in gold coin.
[c] Includes $2,537,640 in gold coin.
[d] Includes $31,668,288 in gold coin.
[e] Includes $26,376,288 in gold coin.
[f] Includes $2,266,798 in gold coin.

Commerce With the United States Augmented.

Commerce with the United States has undergone notable modifications since the war. The commercial activity of Spain has increased as a whole during the past three years, and it is natural that this development should extend to increased trade with the United States, particularly as some of Spain's former markets have been shut off. The growth of this commerce with the United States has, however, surpassed its proportional relation with other great countries, and in 1916 the United States became the first among the

countries of origin, with over $81,000,000 worth of imports. It is true that a large part of the amount was gold, but the same was the case with imports from Great Britain.

Shipping Statistics.

The number of vessels arriving at Spanish ports was greater in 1917 than in 1916, although the total tonnage, as well as cargo, was less. The entry of ships of foreign registry during 1917 was about half the number entering during 1916. A general decrease marks the statistics covering maritime movement, notable exceptions being the increased amount of cargo taken by a decreased number of foreign steamers clearing, and the large number of Spanish sailing vessels clearing, of which there were 2,271 more than the year before. Statistics regarding the vessels entering Spanish ports during 1916 and 1917 are given below.

Class of vessel and flag.	1916			1917		
	Number.	Tonnage.	Cargo.	Number.	Tonnage.	Cargo.
WITH CARGO.						
Steam:			*Metric tons.*			*Metric tons.*
Spanish	3,875	4,474,691	1,968,001	3,770	3,611,708	1,484,226
Foreign	1,433	1,648,216	1,860,000	714	1,100,692	628,457
Sail:						
Spanish	720	33,535	23,709	2,014	100,151	52,044
Foreign	419	77,243	100,344	336	83,677	112,916
IN BALLAST.						
Steam:						
Spanish	2,021	1,475,466	.....	1,686	999,962	.....
Foreign	2,367	3,120,544	.....	2,428	3,659,396	.....
Sail:						
Spanish	1,876	38,090	.....	3,008	93,155	.....
Foreign	296	70,514	.....	251	43,516	.....
Total	13,013	10,937,699	3,952,054	14,207	9,683,257	2,277,643

The number of vessels, the tonnage, and cargo clearing from Spanish ports in 1916 and 1917 are shown in the following table:

Class of vessel and flag.	1916			1917		
	Number.	Tonnage.	Cargo.	Number.	Tonnage.	Cargo.
WITH CARGO.						
Steam:			*Metric tons.*			*Metric tons.*
Spanish	7,100	7,218,957	3,707,839	5,170	4,745,040	2,034,365
Foreign	4,220	5,325,669	6,925,931	2,938	4,081,407	7,031,332
Sail:						
Spanish	3,053	95,394	76,071	5,172	144,125	169,953
Foreign	532	119,011	149,303	392	69,345	83,602
IN BALLAST.						
Steam:						
Spanish	516	531,606	.....	520	454,954	.....
Foreign	339	757,757	.....	217	216,923	.....
Sail:						
Spanish	199	6,872	.....	351	14,606	.....
Foreign	206	12,464	.....	116	11,894	.....
Total	16,165	14,067,730	10,859,147	14,876	9,738,294	9,319,252

The Spanish Merchant Marine.

The Spanish merchant marine lost 37 ships during 1917, destroyed by enemy submarines. The loss of these ships, which displaced

66,924 tons, materially reduced the national tonnage, which at the beginning of the year amounted to 847,848. The sale of ships of more than 250 tons register, even when both seller and purchaser were Spaniards, was prohibited unless the permission of the Minister of Public Works was secured. Owners of vessels were obliged to render a monthly account to the Director of Commerce in regard to the traffic and routes in which their vessels were engaged. The Minister of Public Works was authorized to seize such Spanish vessels as engaged in foreign trade and did not touch at Spanish ports, and such vessels were ordered to return to Spain at fixed times. Mortgages, transactions, or contracts which tended to reduce the full possession of the shipowner were regarded as illegal unless approved by the Minister of Public Works.

Spanish merchant vessels of 500 tons register or more were ordered to provide wireless installation of a minimum radius of 100 miles, and to carry one or more motor lifeboats, according to the size of the crew, or motors which could be adjusted to ordinary lifeboats.

The coast of Spain was divided into three zones; there was prescribed a special tariff for coastwise freight to different ports in each; and regulations were made as to the kinds of freight to be transported. Merchandise from the interior might be shipped only from certain specified ports at which the railroads of each particular zone terminate. Shipowners were obliged to place at the disposition of the Government 180,000 tons for the transportation of merchandise of prime necessity, a committee being appointed to determine the exports and imports for domestic needs and the conditions of requisition. The tonnage thus acquired may be increased if such action is found advisable by the committee.

Financial Condition of Railroads.

Although the earnings of the leading Spanish railroads showed an increase over those of 1916, the year 1917 may be regarded as unsatisfactory. Traffic increased rapidly, and the high rate of exchange on the peseta influenced favorably the payment of foreign loans, but the expenses of exploitation increased and cut down net returns. In 1917 the financial obligations of the railroads absorbed 31.66 per cent of the earnings, and exploitation, 66.94 per cent, leaving a net gain of only 1.40 per cent.

Some time ago the railroad companies received from the Government reimbursable subventions amounting to about $54,000,000, and for this reason the public demanded of the roads the compensation out of which grew the serious strikes of the railroad employees which took place in 1917. The companies, however, showed that the returns, calculated on a kilometric basis, for the personnel employed were constantly diminishing. Even at special rates for the roads coal increased in price in 1917 contrasted with 1913 by 150 per cent, iron, 300 per cent; iron tires for wheels 631 per cent; and lubricants, 233 per cent. These prices made repairs extremely expensive while the upkeep of the rolling stock was rendered imperative by the greater volume of traffic.

This financial condition of the Spanish railroads forced the companies to increase their rates, and an attempt was made to have the Government fix the prices of materials required for exploitation as well as to guarantee a minimum interest to stockholders.

Receipts for 1916 and 1917.

As compared with 1916, the receipts of the nine principal railroad companies of Spain during 1917 were as follows:

Railroads.	1916	1917	Railroads.	1916	1917
Norte de España	$30,994,089	$32,457,537	Sur de España	$988,614	$1,110,948
Madrid-Zaragoza-Alicante	27,239,188	29,728,324	Medina-Zamora-Orense-Vigo	833,244	967,619
Andaluces	6,405,723	6,338,555			
Madrid-Cáceres	1,189,876	1,289,740	Olot-Gerona	121,341	124,353
Oeste de España	820,035	920,872	San Feliu-Gerona	66,435	66,211

Improvements in Railroads and Transportation.

In spite of adverse circumstances, the railroad system of Spain was slightly enlarged during 1917. The narrow-gauge road being built by the Government from Vitoria to Vergara was extended 11.8 miles—from Salinas de Lenitz to Escoriaza—and the electric railroad under construction from Barcelona to Sabadell and Tarrasa was extended 3.72 miles from Vallvidrera to San Cugat, making a total of new road completed during the year of 15.52 miles.

The functions of the special committees appointed by royal order to control railway traffic were combined in April under a Committee of Railway Transportation, composed of the chiefs of the railway section of the Board of Public Works. At meetings of this committee the representatives of chartered railways may be present to discuss arrangements affecting their interests.

With the rolling stock available on the Spanish railroads it was estimated that 663,300 tons of merchandise and baggage, 199,340 horses, 620,140 calves, and 1,997,530 cows, goats, or pigs can be transported at one time, the average run for a car being 155 miles a day. Attempts were made to systematize distribution so that merchandise might not accumulate in the freight yards. A zone system for certain classes of freight was inaugurated in connection with coast zones, and various minor measures were taken by the Government to relieve congestion at certain points.

Treasury Receipts and Disbursements.

The aggregate receipts of the Spanish Treasury during 1917 were $409,059,190, an increase over those of 1916 of $90,000,000. Early in 1917 the Treasury had to provide for maturity on April 1 of a large issue of 4 per cent bonds and on July 1 of 4½ per cent bonds. After various possible solutions had been considered it was decided to borrow a nominal sum of $180,000,000 at 5 per cent, amortizable in 50 years. The immediate causes of this loan were the great amount of the floating debt and the anticipation of a rise in interest after the war. The public debt in circulation at the beginning of 1917 amounted to $1,684,080,000, which included interior and exterior bonds at 4 per cent. The first claimants on the new loan were the short-term 4 and 4½ per cent Treasury bonds maturing in April and July, and the remainder of the amount was paid in silver. The subscription, which took place on March 31 resulted in $124,794,000 in the value of maturing bonds presented and $1,087,607,000 in cash payments, a total of $1,212,401,000.

As the issue amounted to only $180,000,000 and as $124,794,000 was covered by bonds, there remained only $55,206,000 worth to dis-

tribute, whereas $1,212,401,000 was underwriten, and subscribers accordingly received only 5.076 per cent of their demands. That the loan was greatly oversubscribed indicated the available wealth of the country, but it was seen by comparison with the amount of current bank accounts the day before and the day after the loan that it was not so much the general public that subscribed as the banks, which thus employed some of the capital deposited in their keeping.

The increase of $108,752,775 in the disbursements of the Treasury during 1917, compared with 1916, was chiefly in connection with the public debt. The balance of the year showed a deficit of nearly $4,000,000, in contrast to a surplus at the close of 1916 of nearly $14,000,000.

Revenue Statistics.

The receipts and disbursements of the Spanish Treasury for 1917, compared with 1916, as published in the Government Gaceta de Madrid, were as follows:

Items	1916	1917	Items.	1916	1917
REVENUE.			REVENUE—continued.		
Taxes on real estate, crops, and cattle	$35,537,578	$35,836,457	Sale of Treasury bonds (laws of Dec. 14, 1912, and Dec. 26, 1914)	$72,000,000	$166,633,979
Taxes on industries and trade	8,349,704	8,583,396	Sale of food products acquired by law of Feb. 18, 1915	11,991,952	2,133,721
Taxes on profits derived from movable property	28,463,626	31,434,405	Sale of sulphate of copper	159,750	415
Royal imposts and property transfers	14,306,463	14,785,201	Collection of prepayments made to daily newspapers		99,765
Imposts on mines	1,696,197	1,879,244	Benefits on war insurances		415,335
Personal tax registration certificates	1,245,369	1,223,206	Municipal surtaxes	1,868,520	1,882,228
Imposts on payments made by State, Provinces, or municipalities	1,690,860	1,057,474	Total	318,118,479	409,049,190
Imposts on private carriages	39,540	42,150	DISBURSEMENTS.		
Tax from the Biscay Provinces and Navarre	1,586,460	1,661,797	The Royal House	1,611,676	1,633,500
Customs duties	27,007,800	24,640,471	Legislators	447,480	507,780
Imposts on sugar	5,216,422	5,307,856	Public debt, pensions, etc	78,517,743	198,419,926
Imposts on alcohol	3,186,965	2,832,267	Unemployed classes	15,157,403	15,447,326
Tax on interior consumption of beer		150,798	Presidency of the Council of Ministers	1,383,865	2,630,312
Consular fees	179,190	176,915	Ministry of State	1,574,765	1,525,671
Imposts on octroi	7,186,960	6,801,057	Ministry of Grace and Justice:		
Imposts on passengers and merchandise transported by land or sea	5,443,383	5,881,129	Civil obligations	3,432,790	3,523,923
Stamp tax	17,700,578	19,553,668	Ecclesiastical obligations	7,499,425	7,978,632
Imposts on gas, electricity, and calcium carbide	2,194,480	2,265,677	Ministry of War	47,920,173	43,903,415
Tobacco monopoly	29,504,485	30,446,703	Ministry of the Navy	13,347,045	12,208,168
Match monopoly	3,981,946	4,509,235	Ministry of the Interior	17,768,805	18,211,217
Lottery monopoly	24,844,740	25,418,116	Ministry of Public Instruction	13,403,787	14,768,329
Monopoly of manufacture and sale of explosives	631,040	1,322,852	Ministry of Public Works	30,493,121	30,848,205
State-owned mines:			Ministry of the Treasury	3,825,673	3,575,824
Almaden	3,035,014	1,957,692	Expenses of the Treasury for collecting revenues	38,680,593	35,211,569
Linares		916,047	Spanish possessions in the Gulf of Guinea	342,000	342,000
Revenue from religious sources	480,000	480,000	Action in Morocco	27,000,929	20,481,622
Payments for exemption from military service and fines	1,685,178	1,494,857	Municipal surtaxes	1,889,393	1,832,622
All other sources of income	7,542,679	7,361,377	Total	304,296,666	413,049,441

The Bank of Spain.

The year 1917 was one of continued prosperity for the Bank of Spain. The gold reserve increased from $241,296,120 at the close of 1916 to $370,117,080 at the close of 1917; the silver reserve fell from

$133,471,440 to $127,896,840, making a total metallic reserve at the end of 1917 of $498,013,920.

In March, 1917, the bank was authorized to increase its bank-note issues from $450,000,000 to $540,000,000, provided the additional $90,000,000 should be guaranteed by a gold reserve. At the close of 1917 the value of the notes in circulation was $504,000,000 compared with $425,000,000 in 1916. The policy of the Bank of Spain to store its gold in vaults and not put it into circulation during the year was the subject of animated discussion in financial circles.

The bills in circulation at the close of 1917 were distributed as follows: $102,000,000 in 1,000-peseta notes, $108,000,000 in 500-peseta notes, $190,000,000 in 100-peseta notes, $80,000,000 in 50-peseta notes, and $24,000,000 in 25-peseta notes. There was also about $37,000 worth in notes of 250 and 125-pesetas, which are no longer in circulation. The metallic guaranty of the paper notes has risen from 89.3 per cent in 1916 to 95.57 per cent, of which 70.23 per cent represents a gold reserve. However, the bank notes can not be exchanged even at the bank for gold, as may be supposed, because gold is not in circulation on account of the fact that the reserve is composed largely of dollars and pounds sterling and that of Spanish coinage is not sufficient for the demands of circulation.

Deposits and current accounts increased during the year from $136,000,000 to $172,000,000; and the value of discounts, securities, and loans from $120,000,000 to $131,000,000. The balance at the close of 1917 showed net profits of $14,284,059, from which must be deducted $2,968,751 for taxes. Dividends were paid amounting to $5,400,000, which was $18 on every share of a nominal value of $90. There was an excess profit of $5,915,308, which the stockholder devoted to the increase of the bank's capital, pending authorization by the Cortes.

Banking Activities.

The increase of capital in Spain during the year was considerable, as shown by heavier deposits and other accounts in the savings banks and various local banks throughout the country. Thirty per cent of the total current and saving accounts and 25 per cent of the capital in Spanish banks are held in Barcelona. Rates of interest on current accounts were low, very few exceeding 1 per cent.

Until recently Spanish banks have acted more as conservative guardians of national economy than promoters of financial activity, but a tendency to change is apparent in this respect. At the close of 1917, there were 54 private banks in Spain, with a nominal capital of $85,300,200 and a paid-in capital of $43,129,806. Operating with such capital, small compared with that of the Bank of Spain—these banks have during the past years taken steps toward consolidating their interests. Associations have been formed, not as trusts but rather as societies, for mutual advantage. In 1908 the Association of Banks of Barcelona was formed and now includes many concerns throughout Catalonia. In June, 1917, a similar organization was formed in Madrid known as the Association of Bankers of Central Spain, and in October followed the Association of Banks and Bankers of Northern Spain. The chief object of these associations is to keep in touch with and assist large enterprises in Spain or abroad as well as to protect the interests of their members.

Important Banks—Dividends.

Among the more important Spanish banks aside from the Bank of Spain are the Banco Hipotecario, Banco Hispano-Americano, Banco de Barcelona, Banco Español de Crédito, Banco de Bilbao, Crédito Mercantil, Banco Hispano Colonial, Banco de Vizcaya, Banco Guipuzcoano, Banco de Cartagena, Banco de Gijon, Crédito Navarro, Banco Arnús-Garí, and Crédito de la Unión Minera. The Crédito Mercantil is planning a fusion with the Banco de Barcelona. The Banco Hispano-Africano was opened in Madrid in June principally to contribute to the development of the zone of Spanish influence in Morocco and to support colonization and commercial relations between Spain and Morocco.

The banks in general realized greater profits during 1917 than during 1916. Some of the dividends declared for 1917 may be taken as an example. The Bank of Barcelona, the oldest in Spain, paid 18 per cent; Banco Arnús-Garí, 22 per cent; Bank of Bilbao, 24 per cent; Banco de Vizcaya, 12 per cent; Banco del Comercio, 12 per cent; and Crédito Mercantil, 10 per cent. These dividends are the outcome of the unusual accumulation of capital on account of the war. In former years they averaged from 3 to 12 per cent.

New Banking Institutions.

The London City and Midland Bank was considering opening business in Spain, but renounced this project on account of the high value of the peseta which would have made the investment unsatisfactory. The field was taken by the London County and Westminster Bank, which opened a branch in Barcelona in October. The Anglo-South American Bank (Ltd.), which began business in Barcelona in 1916 as the first English bank in Spain, established in 1917 a branch in Madrid and another in Bilbao. This bank also acquired the Commercial Bank of Spanish America, its directors and stockholders having decided that the transaction was desirable in view of commercial expansion after the war. Another bank opened during 1917 was the Mercantile Bank of the Americas, which established a branch in Barcelona, with the object of developing commercial relations with the United States as well as with France, Italy, and South America. Its capital of $5,000,000 was contributed under the auspices of Brown Bros., Seligman & Co., and the Guaranty Trust Co. of New York.

At the close of 1917 seven foreign banks had been established in Spain under conditions favorable not only from an economic standpoint but also from a legal standpoint on account of the facilities afforded them under Spanish law.

They perform operations not practiced by Spanish banks, especially in relation to exportation, and grant long terms of credit, a custom which gives them a decided advantage.

Savings Banks and Accounts.

Three well-defined classes of savings banks exist in Spain, the so-called Caja de Ahorros, the Postal Savings Bank, and certain banks which conduct savings departments. The total number of the various kinds of savings bank books in circulation in 1917 was 1,082,022 and the amount of deposits reached $117,071,660, an increase over 1916, when the deposits amounted to $104,000,000. The Caja de Ahorros

represents 75 per cent of the depositors and 73 per cent of the capital. The number of its depositors is greatest in the Province of San Sebastián, followed by the Province of Barcelona, and the savings are greatest in the Province of Barcelona, followed by the Province of Madrid.

Of the amount deposited in all classes of savings institutions, $22,220,529 are in Catalonia and $21,683,873 in the Vascongadas, followed by Valencia with $12,421,292 and other districts with lesser amounts. In the industrial districts these considerable savings indicate the thrift of the laboring classes. This spirit was stimulated in 1917 by the establishment of three new departments in the savings service—savings accounts for scholars, money boxes, and savings stamps. The last innovation met with the greatest success.

The Stock Exchange.

Regional decentralization in financial matters has resulted in the existence of several bourses of importance, those of Barcelona, Bilbao, and Madrid leading. At Madrid public securities did not show notable changes during 1917. Interior 4 per cent bonds averaged 74.67; exteriors, 82.81; amortizable 4 per cent, 85.29, and amortizable 5 per cent 95.39, the quotations having been lowest in July. The new 5 per cent Treasury bonds closed at the end of the year at 94. The domestic political agitation during the month of August, 1917, caused a momentary drop in all markets of Spain, but an increase was noticeable in quotations on municipal securities and in a rise of 20 per cent on banking securities. An increase due to the war is found in industrials of all kinds, but railroad securities dropped, owing to the demands of the employees and the increased cost of material. Bonds were affected in practically the same way as stocks, nearly all having risen, those of railroads, however, being notable exceptions.

On the Barcelona bourse, Government securities were strong throughout the year, and interiors and exteriors rose. Barcelona municipal bonds showed lower quotations on account of the numerous issues of the year, and railroad bonds were also lower, partly because many French holders sold in order to profit by the high rate of the peseta. Paris sent into Spain many bonds purchased in France by Spaniards. Banking securities rose slightly. The most interesting change was in industrials of which Tabacs de Philippines was quoted at 142.50, compared with 124 the year before, and Transatlanticas at 146 as against 102.50.

Despite considerable activity in bourse transactions, particularly in Catalonia and the Vizcayan Provinces, there was little speculation, and, for this reason, quotations were so little influenced that the market did not adequately illustrate the financial potentiality of these regions.

Decrease in Bond Issues.

Bond issues in Spain aggregated $114,236,319 during 1917, a decrease compared with 1916, when the amount was the highest since 1901. The greater part of these emissions comprised the Treasury 5 per cent bonds, amounting to over $55,000,000. This sum was less than the total of the three issues of the previous year. Issues by local governing bodies, harbor boards, and the Banco Hipotecario re-

mained practically stationary, but railroad bond issues show a marked decrease in 1917 compared with 1916. The great increase in general industrial bond issues indicates the exceptional activity in the Spanish manufacturing world during 1917. The amount attained by these issues during the past 15 years surpassed that of 1916 only in the year 1909, when it exceeded $23,000,000. The sum of $42,300,000, devoted in 1917 to industrial enterprises, showed a decided change in the employment of Spanish capital, which until recently has been notably conservative. The bond issues of 1917 compared with 1916 were as follows:

Bond issues.	1916	1917	Bond issues.	1916	1917
Treasury	$90,187,920	$55,205,993	Railroads	$11,762,640	$8,451,360
Municipalities	4,285,080	4,344,060	General industrial	10,477,950	42,300,000
Harbor boards	569,790	443,206			
Banco Hipotecario	3,809,600	3,491,100	Total	121,083,930	114,236,319

The general industrial bond issues include extensive investments in shipping and shipbuilding, hydroelectric enterprises, machine factories, and siderurgy. With few exceptions the prevailing rate in 1917 was 5 or 6 per cent. The greater part of the 5 per cent bonds were sold on terms that resulted in a yield of 6 per cent interest on the investment.

Joint-Stock Companies.

In 1917 there were 270 joint-stock companies founded in Spain, compared with 217 in 1916. The capital invested in 1917 was $37,688,868, compared with $26,096,000 similarly invested during the previous year. The amount was entirely Spanish capital, no foreign enterprise having been launched in this country since 1915. Of the companies formed during the year, 190 were in Barcelona and 12 in the rest of Catalonia, making 202 in that active industrial section of Spain. Thirty-one companies were organized in Bilbao and 2 elsewhere in the Vascongadas, while 7 were formed in Castile, 7 in Valencia, and the rest in other parts of the country. The Vizcayan Provinces led in the amount of capital invested in joint-stock companies with $14,586,300; followed by Catalonia with $7,662,888; Castile with $6,660,000; Andalusia with $4,500,000; and Valencia with $2,700,000.

Of the newly formed companies 63 were manufacturing, 62 commercial, 20 agencies and representations, 13 navigation, 12 mining, 11 advertising, 8 machinery, 5 metallurgical and siderurgical, and 5 electrical and gas.

About $14,000,000 of the capital thus invested was devoted to manufacturing, $12,000,000 to navigation, and large sums were invested in banks, electricity, gas, hotels, and many other interests.

Estimated Wealth of Spain.

Local tax collectors' returns published in December, 1917, give the valuation of Spanish wealth at the close of 1914, wherein 2,256 banks, societies, and companies were shown to have a total capital of $1,474,750,000, of which $951,167,000 were stocks and $523,583,000 bonds. Stocks of credit institutions were valued at $207,900,000; railways and tramways, $196,920,000; mines, $120,960,000; gas and electricity, $76,500,000; factories, $76,140,000; insurance companies, $47,700,000;

sugar plants, $37,620,000; metallurgy, $31,500,000; navigation, $29,880,000; monopolies, $15,300,000; waterworks, $14,220,000; and canals, ports, and various concerns, the remainder. Railroad and tramway bonds amounted to $346,140,000, gas and electricity to $42,120,000, mining to $28,980,000, municipal and provincial to $26,820,000, manufactures to $16,200,000, metallurgical to $12,060,000, and sugar to $9,540,000. The rest of the bonds were for navigation, water, and various other enterprises.

Spanish capital represented by city land was estimated at $2,250,000,000; country land, $4,950,000,000; live stock, $720,000,000; improved real estate, $1,080,000,000; machinery, $324,000,000; and other movable property, $1,620,000,000.

Insurance Companies Active.

The year 1917 was one of increased activity for insurance companies. The total value of the premiums collected amounted to $16,489,987, which sum is greater by $3,717,578 than that collected in 1913. During the intervening years the business of these companies has suffered from many causes, chiefly connected with the war. The total premiums collected in 1917 by the life insurance companies amounted to $5,033,260; fire insurance, $4,504,997; tontine, $2,385,817; accident, $1,443,967; illness, $989,996; and cattle, $645,628.

Statistics published in 1917 by the Insurance Commissary General refer to operations in 1915 and state that at that time there were 181 insurance companies in Spain, 123 of which were Spanish, 22 French, 20 English, 4 German, 3 American, and a few of other countries. These figures do not include a large number of mutual insurance societies or 66 terrestrial and maritime transportation insurance companies.

Establishment of New Industries.

The bill providing for Government concessions in favor of the creation of new industries or the development of such as already existed in Spain was approved by the Chamber and Senate early in February. This law affords special protection to the following industries: Shipbuilding, the production of coal and the utilization of its by-products, the production and manufacture of iron, steel, copper, zinc, brass, lead, tin, aluminum, and tools, agriculture, the manufacture of fertilizers, cattle raising; hydroelectric exploitation, chemical, textile, electric, and scientific material manufactures, graphic industries; and those established for the purpose of meeting the requirements of Moroccan markets.

A committee for the protection of national production, created in 1908, was reorganized, insuring due representation of all industrial and producing factors and regions of the country. This committee has been engaged on the classification of the industries into groups indicated by the law as well as the examination of cases for benefits thereunder. On account of the stimulus afforded manufacture by the Government, the demands from abroad for Spanish products, and the necessity for supplying the domestic market with merchandise formerly imported, Spanish industrial activity increased during 1917. Labor troubles and high prices of materials militated against industrial production in its fullest extent, but the results were on the whole satisfactory.

Further Development of Wool Industry.

During recent years, especially since the war, the wool industry of Spain has greatly developed. Raw wool of domestic production no longer suffices for the spinning and weaving mills, and it is now necessary to import from Uruguay and Argentina, whereas previously Spain could dispose of from 14,000 to 16,000 tons for export. During the past five years imports of wool and woolen manufactures as a whole have steadily decreased, while exports have increased. Raw wool, however, must be excepted, exports having decreased and imports increased, not on account of the lack of production, but rather on account of the requirements of the industry, which absorbed not only the native wool but necessitated purchases abroad. The values of imports and exports of raw wool during the past five years are given in the following table:

Wool.	1913	1914	1915	1916	1917
Raw:					
Imports	$44,340	$14,300	$1,887,344	$2,250,256	$842,392
Exports	4,159,604	3,510,955	1,298,602	1,042,263	965,634
Washed:					
Imports	648,656	472,745	286,168	186,080	184,820
Exports	683,122	872,789	1,145,950	1,443,518	3,949,432
Yarn:					
Imports	13,069	7,715	36,217	5,239	647
Exports	61,328	154,849	1,390,342	1,377,547	1,884,441

The industry employs largely domestic wool, of which there are many varieties, in addition to the grades imported from South America. In Leon, Segovia, and Estremadura merinos are produced which are employed in making fine worsteds. In Aragon a class called entrefinos is produced, and that peculiarly adapted to making cloth for civil and army uniforms comes from Burgos and Navarre. In some parts of Andalusia a very fine wool is raised, but most of the Andalusian wool is entrefinos, long, strong, and excellent for cloth. The raw cotton used by the spinners and weavers is now practically all of American origin, but the cultivation of silk in Spain is increasing, and some vegetable fibers are likewise of domestic origin. Much textile machinery is supplied by Spanish factories, which have increased their plants in order to replace foreign machines now difficult or impossible to secure. The chemical situation, which early in the war was greatly affected by the cutting off of supplies from Germany, has been improved by the manufacture in Spain of much-needed material.

Despite the development of the wool-washing facilities in Spain, importation has not ceased entirely, because for the manufacture of certain articles special kinds of foreign wool are required. This is notably the case with the Australian product, which is imported raw, washed, and spun. The value of exports of manufactured woolen goods increased from $5,703,919 in 1913, and $10,761,997 in 1914, to $30,762,577 in 1915; afterwards decreasing to $20,912,047 in 1916, and to $12,198,857 in 1917. The exports of the year 1915 were a surprise even to manufacturers, who themselves did not realize that the industries of the country were capable of such production, until under the rush of orders from the countries then at war unforeseen results were attained.

Cotton Industry—Textile Works.

The manufacture of cotton textiles in Spain consumes over 1,000 bales of raw cotton daily, all of which is imported. During the 1916–17 campaign imports were heavier than during the previous campaign by 27,783 bales, but circumstances were such that a comparison of the figures gives little idea of the increased demand for that commodity. Barcelona importers bought all that they could secure in spite of heavy freight rates.

In contrast to a decrease in imports of raw cotton from Egypt and India, American cotton increased by 41,991 bales during the present campaign year, compared with the previous season. A total of 356,846 bales of American cotton were shipped; 282,538 from Galveston, 32,873 from New Orleans, 24,470 from New York, 12,440 from Savannah, 1,400 from Charleston, 100 from Pensacola, and 3,025 bales came indirectly.

In the city of Sabadell at the beginning of 1917, the number of spindles employed in the wool industry was increased to 139,622 and those in the cotton mills to 52,300, while the mechanical looms in both branches amounted to 4,900, an increase of 10,456 spindles and 213 looms over the preceding year. In connection with these mills there are 175 dyeing plants, 12 bleacheries, 22 steam presses, and 105 carding machines. The electric, steam, hydraulic, and gas force employed amounts to 11,100 horsepower. The total of operatives employed in cotton and wool mills and auxiliary industries amounted to 14,370 in 1917, an increase of 2,020 compared with the previous year. The production of yarn is estimated at 12,342 tons, woolen and worsted goods at 3,634 tons, cotton yarn, 3,243 tons, and cotton goods at 3,120 tons; 6,157 tons passed through the municipal conditioning house. About 1,000 tons of washed wool were exported to Italy, and large orders of blankets, woolens, and yarn were shipped to France and Italy.

The chief products of Spanish industry, exclusive of foods and beverages, as classified under the industrial tax returns are: Cotton textiles, industrial machinery, iron and steel, chemicals, machinery, boilers and metal goods, porcelain, tiles, other ceramics, and glass, products of carpentry and cabinet making, woolen textiles, toys, printed, dyed, bleached, and finished goods, textiles of mixed fibers and silk, soaps and glues, leather goods, yarns of all kinds, hemp and linen textiles, paper and paper manufactures.

Textile Industries.

Spanish establishments comprise the cotton, wool, linen, silk, hemp, dyeing, bleaching, and associated industries, of which there are about 8,000. The number in Catalonia is nearly three-quarters of the whole, more than one-half being located in the Province of Barcelona and the rest in Gerona, Tarragona, Lerida, and the Balearic Islands. These also are the most important establishments, contributing 90 per cent of the industrial tax on this branch of industry. The cities of Barcelona, Sabadell, Tarrasa, and Manresa are the centers of this manufacture in all its branches.

An indication of the importance of the textile industry in the city of Tarrasa is seen in the fact that between 5,000 and 6,000 tons of washed wool are worked up in its factories annually. The wool-

washing plants can handle from 10,000 to 15,000 tons annually, whereas before the war the capacity was limited to 5,000 tons. As an outgrowth of this branch of the industry, a company has been formed for the sole purpose of utilizing the potash contained in the residue of water used in wool washing. In the factories of Tarrasa 15 tons of wool can be combed daily, an increase of 5 tons compared with pre-war capacity, and this increase would have been still greater except for the lack of certain machinery.

The wool combing of Tarrasa has also developed since the war, as has the manufacture of blankets, capes, and cloth for the armies in the field, large orders having been placed by the Governments of France, Italy, Russia, Greece, and Serbia. An illustration of the rapid growth of industrial life in Tarrasa is found in the quantity of wool passing through the conditioning house, which in 1913 amounted to only 3,377 tons, but in 1917 to 12,108 tons. The spindles employed in wool and worsted number 112,000 and looms 1,500; there are 215 wool-combing machines, 80 looms for making woven woolen garments, 3,000 spindles, and 450 looms for manufacturing cotton goods. Production amounted in 1916 to over 12,000,000 yards of woolen piece goods, 5,000 tons of combed wool, 11,300 tons of washed wool derived from 28,500 tons of raw wool, 200 tons of stockings, socks, and woven garments of wool, cotton, silk, and artificial silk, 198 tons of yarn, and 605 tons of cotton piece goods.

Unprecedented Returns from Metallurgical Industries.

The value of the products of Spanish metallurgical industries in 1916 was over $100,000,000, a much greater sum than any thus far realized in Spain from that source. The increase was due partly to the growth of metallurgical manufacture and partly to the high prices paid for the finished products. The value of metallurgical goods in Spain has more than doubled during the past decade.

The output of semimanufactured iron and steel greatly increased during 1916, amounting to 721,746 tons (including 398,815 tons of cast iron), and the prices obtained were far in excess of the previous year. The value of pig iron, iron and steel sheets, puddled iron, forged iron, and tempered steel at the Spanish blast furnaces and rolling mills was $23,500,000 in 1916 compared with $16,900,000 in 1915, notwithstanding the fact that about 60,000 tons less of these manufactures were turned out. The price paid for certain siderurgical products was between three and four times as great as before the war. On account of the perfection of labor-saving machinery, the number of employeees was reduced from 12,858 in 1915 to 12,571 in 1916, and workmen thus liberated were employed in the mines. The metallurgical industries of Spain are centered in the Province of Vizcaya, where the rolling mills and blast furnaces had a year of exceptional activity. New mineral and metallurgical enterprises numbering 31 came into existence in that Province, one of which, when fully established, promises 300,000 tons annually.

Steel for National Defense—Attempt to Regulate Prices.

The important establishments in Baracaldo and Sestao devoted their attention chiefly to the production of steel for national defense. An electric furnace was installed for the production of a special

quality of steel. A forge for masses of steel up to 60 tons was started for making cannon and their mountings. At La Felguera, Mieres, and Moreda steel in lumps, iron and steel in billets and sheets, and iron in ingots are produced. A fully equipped ammunition factory is situated at Trubia. At Corrales two furnaces of 8 tons capacity turned out increased quantities of steel, but the factory at Nueva Montana had difficulty in filling its contracts, owing to shortage of coal. Important furnaces are situated at San Pedro de Araya, Vera, and Malaga.

Early in 1917 an effort was made to regulate the prices of siderurgical products by the appointment of a board to fix the maximum selling price at the factory. This board was composed of representatives of various lines interested. A commission appointed by the Government to study the question rendered a report which resulted in prohibiting the export of cast iron in pigs, steel in lumps and billets, crude iron in billets, scrap iron and steel, iron and steel rails bars, plates, and hoops.

Lead, Sulphuric Acid, Cement, and Coke.

The lead refineries turned out 147,407 tons of refined lead in 1916, a decrease compared with 171,472 tons in 1915, although the value at the plants was approximately $24,000,000 compared with $14,000,000 the year before. About half of this lead was reduced in the Province of Cordoba. This industry is highly developed in Spain. Important lead works are situated at Penarroya, San Luis, La Tortilla, and La Cruz. The number of laborers employed in the 15 works was 3,580 during 1916, compared with 3,439 during the previous year.

A notable increase is seen in the production of sulphuric acid, of which the annual output has averaged about 20 tons for the past decade and that in 1916 amounting to 140,788 tons. Five factories in the Province of Barcelona, which in 1915 were not productive turned out 80,000 tons in 1916. In 14 factories, 555,975 tons of briquettes were produced, the greatest quantities being from Oviedo and Leon. Of the 536,346 tons of cement produced in 1916, 289,959 tons were natural and 246,387 Portland. The Province of Barcelona leads in the manufacture of both classes, although large quantities are made in many parts of the country. The coke produced amounted to 957,679 tons, compared with 623,353 tons the year before, and was the maximum for the decade. More than half of the coke was from the Province of Vizcaya, where it proceeds from the siderurgical factories.

Copper, Silver, Salt, and Zinc Works.

The production of semimanufactured copper in 1916 amounted to 32,880 tons compared with 34,699 tons in 1915. The 1916 production consisted of 17,507 tons of blister copper; 11,233 of precipitate of copper; 1,762 tons of ingots; 1,500 of wire; and 878 of copper shell. The copper obtained at the Rio Tinto works in 1916 decreased from 17,556 tons in 1915 to 15,803 tons, but the value of the product at the plant was far in excess of the previous year. The ingots were produced in the Province of Cordoba, blister and precipitate of copper at Huelva, the wire in Oviedo, and the shell in Seville. At

Cueva de la Mora copper production increased from 1,502 tons in 1915 to 1,704 tons in 1916. The laborers employed in the copper works of all Spain increased from 3,586 to 3,849.

Of the 140 tons of silver obtained during 1916, compared with 142 tons during the preceding year, 61 tons were from the Province of Cordoba, 47 from Murcia, and 24 from Leon. All this silver came from the argentiferous lead mines. Ordinary salt, 546,989 tons of which were produced in 1916 against 488,305 in 1915, came chiefly from the salt gardens in the Provinces of Cadiz, Alicante, the Balearic Islands, and Tarragona.

The two white lead factories of Spain increased their output in 1916 from 2,132 to 2,493 tons. The zinc furnaces produced 8,526 tons of zinc, an increase of some 400 tons over 1915. The 1916 output included 1,715 tons of sheets and 4,913 tons of refined metal from a factory in Oviedo. The quantities were practically the same as in 1915, but the prices paid at the plant totaled less in 1916 than in 1915.

Hydroelectric Development in Spain.

Utilization of electric current in Spain has increased wonderfully during recent years. In 1908 it was estimated that the hydroelectric force under exploitation amounted to 80,000 horsepower, and at the close of 1917 it was approximately 500,000 horsepower. Even this growth is far from the possible 5,000,000 horsepower said to be capable of development in this country. The 500,000 horsepower of hydroelectricity now in use is equivalent to about 2,000,000 tons of coal and insures a tremendous saving of mineral fuel. During 1917 a hydroelectric enterprise of 15,000 horsepower was commenced in Asturias and one of 12,000 horsepower in Valencia. The Electra de Viesgo has under construction in Asturias work which will eventually yield 18,000 horsepower, and Dos Aguas in Valencia, capable of producing 60,000 horsepower, is now being worked for the utilization of 20,000 horsepower.

In the Provinces of Barcelona, Granada, and Pontevedra electric railways and tramways were constructed and extended. Plans were submitted for the electrification of a railway from the Asturian coal fields to central Spain and also for a direct electric line from Madrid to Valencia.

In 1917, the hydroelectric enterprises in Spain numbered 170, of which 67 are recognized as important in that they produced 800 horsepower or more. These enterprises exploit 361,557 horsepower out of a potential capacity of 858,434. There were 29 medium-sized establishments of 300 to 500 horsepower exhausting their entire potential capacity of 14,795 horsepower; and 74 small works of less than 300 horsepower, each also using its entire potential capacity of 7,945 horsepower. By including the smaller installation, of which statistics are lacking, the total horsepower in exploitation would reach 500,000.

Capital Invested in Hydroelectric Enterprises.

When hydroelectric works now under construction in Catalonia are completed, they will attain 700,000 horsepower. The average rate for this current in important contracts is $36 a year per horsepower. The rate per kilowatt hour for motors, tramways, and the

like is from $0.0108 to $0.054; and lighting current varies from $0.108 to $0.216 per kilowatt hour.

Of the 200,000 horsepower employed by the textile industries of Catalonia, 100,000 horsepower is hydroelectric force. Flour mills and paper mills have increased their consumption of current. Although electric application is still susceptible of vast development in Spain electric illumination seems to have practically reached its limit, even small towns and villages being lighted by electricity. New railroads also employ this force, but the older ones can not at present procure the necessary material for electrification. There is a wide field in Spain for the sale of electric apparatus because domestic production can not as yet meet the requirements of the local market.

Capital invested in hydroelectric enterprises in Spain amounts to some $300,000,000. Most companies work on comparatively small capital, only six of them being capitalized at more than $4,000,000. Some of the more important of these companies are foreign. The Spanish Government, under the provisions of the law for the protection of industries, affords certain advantages to Spanish companies exploiting hydraulic energy beginning at a minimum of 1,000 horsepower.

Locomotive, Motor, and Machinery Production.

Spain suffered during 1917 from the lack of railroad cars, which resulted in the tying up of a great mass of freight. A company formed to build rolling stock drew up a plan for work, by which it proposed to construct 50 cars the first month, 100 the second, and 150 the third. The Norte de España Railroad ordered 200 cars, the Asturian 80, and there were many other contracts. The average deliveries per month to the different companies during the year attained the number of 243 cars, of which 226 were of 20 tons capacity. The manufacture of passenger and freight cars is now of growing importance, especially at Barcelona, Miravalles, Zaragoza, Beasain, and Palencia and is sufficient to supply local railroads.

The really difficult task was the construction of locomotives. Spanish railroads considered the formation of a company especially for this purpose, but finally it was decided to intrust this branch to the Maquinista, Terrestre y Maritima of Barcelona, and its capital was increased by the roads to $3,600,000. This company constructed 15 locomotives for the Madrid, Zaragoza y Alicante Railroad in 1917 and a considerable number for other railroads. This is the first serious effort in Spain to build locomotives, because until now the prevailing customs duties rendered it cheaper to import them. Between the years 1900 and 1914 the Madrid, Zaragoza y Alicante Railroad bought 368 locomotives, all German, and the Norte 299, of which 247 were German and the rest Belgian. Extensive repair shops have also been formed at Palencia.

In March, 1917, a royal decree established the right of the Government to intervene in factories and workshops where any kind of railroad material is manufactured or can be manufactured in order to investigate whether production can be intensified and to distribute the material turned out to the places most needed.

A number of locomotives were imported during the year from the United States by the Norte Railroad. These came in parts and were assembled in the company's shops at Valladolid.

The Minister of the Marine organized a contest for the construction of Diesel motors, ordering 18 motors of a minimum of 400 horsepower and a maximum of 47 tons for coast-guard vessels; and 36 submarine motors of 600 to 1,000 horsepower. A Spanish company contracted to supply them.

Activity in Shipbuilding.

The construction of vessels during 1917 in Spain was not sufficient to replace the continued losses of Spanish bottoms or to meet the requirements of the nation's commerce. The chief reason for this was the difficulty encountered in obtaining necessary materials, especially iron and steel. However, activity in the shipyards was relatively intense. At the close of 1917 tonnage under construction at Bilbao amounted to 12 vessels, with a total tonnage of 3,600; and 6 vessels, with a total tonnage of 28,500 were launched during the year. These figures relate to the three yards of that region. Similar activity existed in shipbuilding enterprises of other districts. A company at Tarragona constructed steamers and sailing craft of 1,500 to 10,000 tons, and many others went into dry dock for repair. The shipbuilding establishments of Ferrol, Cartagena, Matagorde, Sestao, and Carraca were likewise unusually active. A new company was organized at Reinosa, with 7,000 employees, to contribute war material for the Navy, and the creation of a shipyard at Vigo was considered. An important contract for 2 vessels of 9,600 tons had to be abandoned owing the impossibility of securing the necessary material.

Development of Maritime Companies—Increased Dividends.

A notable feature in the shipbuilding annals of 1917 was the development of maritime companies stimulated by advantages offered by the Government, the losses occasioned being supported by insurance. The nominal capital of the companies, which in 1916 amounted to $25,242,660, rose in 1917 to $51,609,991; and the paid-in capital rose from $21,415,320 to $35,932,252. One of the reasons for increase was the formation of a new company with a nominal capital of $18,000,000 and a paid-in capital of $9,000,000.

The dividends of shipbuilding companies have increased enormously and have permitted in some cases a partial repayment of money borrowed aside from large sums set aside for reserves. Several companies paid during 1917 from the 1916 returns 50 to 200 per cent in dividends. Their stocks naturally attained proportionally high quotations. As an illustration of some of the prices paid for vessels it may be stated that a navigation company of San Sebastian bought a fleet comprising 8,200 tons at the rate of $225 per ton, and a Cartagena company paid at the rate of $216 per ton for vessels purchased.

Cork Industry Declines.

The cork industry in Spain has recently suffered a stage of depression, which during 1917 did not change for the better. Many proprietors of cork groves are abandoning cultivation, selling their property or felling the trees. Owing to the coal shortage of the winter of 1917, cork trees were sacrificed for fuel and brought large sums.

The depression is largely caused by reduced vintages in leading wine-making countries of Europe, and wine acquired for the troops

is sold chiefly in casks and not bottled, thus greatly reducing the demand for stoppers. The case is the same with bottled wines and mineral waters. Some important markets for corks are completely closed, and the demand in the United States does not replace them. The cork is manufactured chiefly in Catalonia and under normal conditions 90 per cent of the products of this industry are exported. Not only have exports greatly decreased but much difficulty has been encountered in getting the bark for manipulation. This is usually brought to Catalonia in boats, and of these there were fewer available, and freight rates were almost prohibitive.

The export of cork in sheets has not suffered so greatly as have some of the other products, for, after decreasing during 1915 and 1916, it rose in 1917 to above 4,000 tons, an increase of more than 3,900 tons over the export in 1913, which was due in part to its wider use in the making of life belts. The export of cork cut into cubes for transformation into stoppers amounted in 1913 to 786 tons, and in 1917 to 462 tons. The export of stoppers, which was one of the most important branches of the industry, fell from 8,370 tons in 1913, to 4,490 tons in 1917, causing a loss to Spanish exporters of some $4,000,000. On the other hand, cork dust and shavings, which at one time were regarded as of little or no value, have grown in importance through their use in pressed-cork products. Of dust and shavings 33,000 tons were exported in 1913 and 36,000 tons in 1917. Manufacturers, however, complain that such export damages the industry as Spanish laborers are thus deprived of the profits of its last manipulation. The United States, as the greatest market for the cork dust and shavings purchased 18,952 metric tons in 1917.

The manufacture of cork in various forms has been developed under the pressure of circumstances for a number of new uses, such as insoles, washers, life preservers, hat linings, paper, insulators, and quite recently cork wool for mattresses. Exports of cork to the United States in other forms as given in the export statistics rose from 298 tons in 1913 to 2,348 tons in 1917. The increase was in cork disks, which partially offset the great decline in the export of stoppers.

Mining and Mineral Products.

The impetus given to Spanish mining by conditions traceable to the war resulted in increasing the quantity and value of minerals produced in 1916. The value of ores at the pit amounted to $68,914,033, compared with $45,721,829 in 1915, and the value of metals and mineral products from the smelting works amounted to $104,258,448 compared with $66,887,533 in 1915, a gain of $23,192,204 in the value of ores at the pit and $37,370,915 at the smelting works. The total value of Spanish mining products in 1916 amounted to $173,172,488, an increase of $60,563,126 compared with $112,609,362 in 1615 and nearly double the output of 10 years ago.

In 1916 the number of mining concessions was 2,531, an increase of 328 over 1915, while there were 17,789 laborers more than in 1915. The factories and salt works engaged in mining industries numbered 403, or 47 more than the year before. To those already in use at the mines were added 675 machines, bringing the number to 2,163 with a consequent increase to 97,191 horsepower, a gain of 3,799 horsepower. While the machines in the smelting works decreased from 1,559 to

1,481, the smaller machines were replaced by larger ones, bringing up the force supplied to 135,228 horsepower. The number of minor accidents to employees was 20,517, an increase of 3,801 over the previous year; serious injuries amounted to 431, or 99 more than the year before; and deaths 251, or 8 more than the previous year. The increase in accidents and deaths is attributed partly to the greater number of miners employed and partly to the fact that many were unaccustomed to blasting powder and did not understand its use.

Output of Principal Minerals.

Among the most important Spanish minerals are the following, with amounts (in metric tons) produced in 1915 and 1916:

Minerals.	1915	1916	Minerals.	1915	1916
	Tons.	*Tons.*		*Tons.*	*Tons.*
Iron	5,617,839	5,856,861	Zinc	81,922	166,053
Coal	4,135,919	4,847,475	Sulphur	28,937	46,923
Copper [a]	1,489,419	1,773,921	Quicksilver	20,717	19,799
Iron pyrites	730,568	953,678	Manganese	14,328	14,178
Common salt [b]	793,340	895,928	Silver-bearing lead	2,935	7,371
Lignite	328,213	473,106	Ocher	1,500	800
Lead	285,266	269,283	Silver	210	275
Anthracite	222,621	268,087			

[a] Includes copper ore and ferro-cupreous pyrites. [b] Includes rock salt and products of salt works.

The total area of the mining concessions in 1917 was 2,208,634 acres, of which 1,523,732 acres were unproductive and 684,902 acres productive. The most extensive productive concessions were in the Province of Ciudad Real, covering 489,107 acres; those of Oviedo had a superficial area of 95,788 acres; Leon, 18,169 acres; and Palencia, 17,240 acres. The area of the productive and unproductive iron-mining concessions is greater than that of any other mineral in Spain, with that of quicksilver, coal, lead, lignite, and copper mines following. Of the productive concessions in 1916, quicksilver mines covered 485,690 acres, coal mines 126,784 acres, iron mines 20,418 acres, lead 14,826 acres, lignite 8,036 acres, and copper 7,806 acres.

Profitable Iron Deposits—Loss of German Market.

Iron ore is the leading mineral product of Spain and second only to coal in value at the pit. Nearly half the ore mined in Spain during 1916 originated in the Province of Vizcaya, which yielded 2,815,974 tons, the Province of Almeria contributing 854,373 tons, and 15 other Provinces adding, in greater or less amounts, to the total, which, although slightly in excess of the yield of 1915, was still far below the average annual output for the decade. Although the total amount of iron ore mined in 1916 increased by only 239,022 tons over the previous year, the value at the pit showed an increase of 50 per cent. The total number of laborers employed during 1916 was 23,764, an increase of 4,439 over the year before.

The impossibility of exporting iron ore to Germany, which country formerly received over a million tons, particularly affected the Province of Vizcaya, where there are 93 iron mines. One important company, which ordinarily ships about 300,000 tons of washed mineral to Krupp's annually, closed its works completely on account of the blockade, but, on the other hand, new furnaces were installed

in the Province and production increased to meet orders from England.

In the Province of Murcia are valuable iron deposits, from which more than 200,000 tons of magnetic iron were formerly exported annually to German foundries, but in spite of the loss of this market and the consequent paralysis of work in some parts, the output in 1916 was still satisfactory. The existence of very ancient mines in the Mazarron district which had been abandoned, after extensive working about 17 centuries ago, leaving large quantities of ore already mined, led to the formation of a company to revive the enterprise. However, after heavy expense in preliminary operations, the company discontinued its efforts, not having realized the economic advantages anticipated.

The iron-mining situation created by the war has brought out the necessity of blast furnaces to enable the country to profit more directly from the rich ore beds along the northern and southern coasts. This ore is now largely exported and the domestic needs of the country suffer. The iron pyrites mined during 1916, chiefly in the Province of Huelva, showed an increase of 223,110 tons compared with the previous year, owing in large measure to the demand for this mineral in England for the manufacture of explosives.

Coal Mining.

As the nation has been forced to rely in large measure on domestic fuel, coal mining has been encouraged in every way possible, with the result that 5,973,300 metric tons of coal of all kinds were mined in 1917, an increase of 1,125,825 tons over the official figures given for 1916. In 1917 the production of soft coal amounted to 5,025,600 tons, lignite to 636,800 tons, and anthracite to 310,900 tons.

In many cases the production was checked by the impossibility of transportation, owing to the lack of coal cars on the railroads. It is said that near many of the mines there were thousands of tons of coal ready for sale, but that there were no means by which it could be carried away. Mining was paralyzed in some parts also on account of insufficient space in which to store coal accumulated.

There are recently discovered indications of carboniferous deposits in the Province of Cordoba estimated at over 13,000,000 tons. Some of these deposits are said to be accessible and capable of ready exploitation. The present production is of slight importance in comparison with its possibilities. The great mines of the Compañia de Peñarroya are well equipped for operating on a large scale. Over two-thirds of the anthracite mined in Spain comes from the Province of Cordoba.

Causes Contributing to Increased Production.

It is generally admitted that the fuel problem for Spain can not be solved in one or two years, but that much time must pass before the rich carboniferous resources of the country can be made freely available and distributed throughout the kingdom. In 1916 there were 877 coal-mining concessions producing soft coal; 62 lignite; and 20 anthracite. The soft-coal mines employed 37,926 laborers; lignite mines 3,300; and anthracite mines, 1,913 during 1916, which was 10,160 more hands than engaged in coal mining in 1915. The rich coal fields of Oviedo yield over half the supply.

That the increase in production during 1916 was due more to intensive working of established mines than to the exploitation of new areas was principally on account of the difficulty of installing new mining machinery and getting the actual work of mining under way. The favorable results attained are partly due to the social institutions organized and perfected for the miners which had the effect of attracting labor to the mining districts to remain definitely, thus counteracting emigration from Asturias, which is already reducing the population of that part of the country. Another element in bringing about the increased production was the generalization of mechanical transportation in the interior of the mines, an important factor, owing to the great extension of the galleries. Several new mines were opened which will in time, it is hoped, add materially to the total annual output.

The most notable increase, in proportion to the extension of the coal beds exploited, was at the mine of Puertollano in the Province of Ciudad Real, which nearly doubled its output in 1915. This work is facilitated by the horizontal position of the veins at slight depth. New shafts were opened and machinery was installed for mining coal and for the production of benzol and sulphate of ammonia. Preparations were made for an annual production of a million tons of coal if sufficient labor and means of transportation could be secured. At present the work is closed for several days each month so as not to overcharge the coal depots and cause unnecessary fire risks. The principal mines of the Province of Seville, which are situated at Villanueva and belong to the Compañia de Ferrocarriles de Mediodia, continued to produce normally as for several years past.

Deposits in Many Provinces.

In the Province of Oviedo the production of 1916 showed an increase of nearly 200,000 tons.

The Province of Leon did not increase its output to any appreciable extent, because the railroad from Robla to Valmaseda is incapable of transporting more than 400,000 tons annually, and thus important mines, such as the Sabero, could not profitably force the production beyond that amount.

The same was the case with the rich mines of Villablino, whence the mineral was carted to Ponferrada at an expense of $8 per ton. The coal mines of Palencia are located around Barruelo and Orbo, the first being the more important and belonging to the Compañia de los Ferrocarriles del Norte, which uses the output on its own road. In this Province there are anthracite mines, some of which have long been neglected, but preparations have now been made to work them extensively.

Although the Province of Logrono produces at present very little coal, it possesses beds, which despite their irregularity are capable of profitable exploitation, mining having already been begun with promising results. A railroad will soon be built to carry the coal from the mine at Prejano to Calahorra, but in the meantime it is being hauled in mule carts or carried by pack animals. Some of the outcropping strata have never been scientifically mined; but for several centuries the coal has been broken off, when needed, by the people of the immediate neighborhood. Now, however, the high price

paid for coal has attracted capital to that locality, and work has been undertaken both on the surface and underground.

Increase in Output of Lignite.

The production of lignite shows a decided increase, and its extended use is an interesting development of the fuel question. The lignite mines of Utrillas in the Province of Teruel are the most important in Spain and from that Province one-third of the entire supply is drawn. The Compañia Minas y Ferrocarril de Utrillas is the greatest operator in that section and obtained quantities of lignite for its own use as well as for sale. At present this company can not greatly increase its output, but it has ordered two engines in Philadelphia, which, when delivered, will facilitate the distribution of as much as 200,000 tons a year. The delivery of these engines has been retarded by the entry of the United States into the war.

A line connecting Utrillas with Zaragoza would be of great advantage to the mining company, as this would enable it to send lignite to Barcelona and Zaragoza. At Figols in the Province of Barcelona are lignite mines producing 100,000 tons annually. The Balearic Islands more than doubled their production of lignite compared with the previous year, although intensive work in the mines did not begin until July. Mines that had been abandoned because of the limited demand for this product were again worked to supply fuel for local industries, remunerative prices being paid. In the Province of Santander the lignite mines yielded three times as much in 1916 as in 1915.

Exploitation of Coal Industry to Continue.

The progress in Spanish coal mining is indeed all that could be expected, but the supply does not yet meet the industrial demands of the country. It is natural that the increase should continue unless labor should fail, because the mining companies are now supplied with machinery. To encourage mining throughout Spain, the Government authorized an organization called the National Council of Coal Miners, the principal objects of which are to group small concessions, investigate new fields, secure mining machinery, build railroads, depots, and freight yards, and by concerted action increase the production of coal. Syndicates of mining companies are formed in different localities having the right to representation in the national council based on the quantity of coal produced. The Government grants this organization aid by constructing such railroads as may be necessary for the development of coal fields and by advancing funds in the form of loans to groups of mine owners.

Taking into consideration the preparations that have been made in Asturias, Leon, and Ciudad Real for greater mining efficiency, it is hoped that, with an increase in labor at the mines and the encouragement given by the Government, the output in the future may be still further augmented.

Production of Copper.

The 1,773,922 tons of copper mined in Spain in 1916 consisted of 25,180 tons of copper ore and 1,748,742 tons of ferro-cuprous pyrites, an increase over the past two years, although still considerably below the annual yield from 1907 to 1914, which averaged more than 3,000,-

000 tons. The number of laborers employed in the copper mines during 1916 was 12,877, about 4,000 less than the year before, the decrease being entirely at Huelva mines.

There were 81 productive mines with an area of 7,806 acres, and 822 unproductive with an area of 40,734 acres. In the Province of Huelva where the Rio Tinto Mines are situated, 1,657,348 tons of ferro-cuprous pyrites were produced. The mines of Huelva yielded only 2,898 tons of copper ore, whereas 21,407 tons came from the Province of Cordoba. The production of ferro-cuprous pyrites in the Province of Seville decreased compared with 1915 from 101,786 tons to 91,094 tons. The term copper ore is applied to ore having more than 4 per cent of copper, and mineralogically is the chalcopyrite mixed with pyrites of iron in most cases. Under ferro-cuprous pyrites are included pyrites of copper mixed with iron pyrites containing from 1 to 4 per cent of copper.

The prices paid for copper ore and ferro-cuprous pyrites during 1916 were abnormally high owing to the need of copper and sulphuric acid for explosives, of which England, in particular, acquired great quantities.

Lead and Silver Mines.

During 1916 there were 328 productive lead mines employing 25,072 laborers, an increase of 16 mines and 639 laborers compared with the previous year, but the production decreased in all of the principal lead-yielding Provinces, such as Jaen, Murcia, Cordoba, and Ciudad Real. In contrast to this the Province of Almeria more than doubled its output of lead, and that of Granada showed a slight increase. Although the quantity mined was less than the year before, prices were such that the value of the ores at the pit amounted to considerably more than in 1915.

The production of silver-bearing lead ore during 1916 was more than double that of 1915 and much greater than during any year for the past decade. Of the 22 mines that were productive, 21 were in the Province of Almeria, where 6,771 tons were mined. Although only one silver mine was worked in 1916, that in the Province of Guadalajara, the yield was considerably in excess of the year before. That was, however, only a small record for silver production compared with the output of the ancient Iberian mines.

Quicksilver, Antimony, and Other Minerals.

Spain's production of cinnabar in 1916 was more than 900 tons less than in the previous year, owing to a decrease of over 1,500 tons in the production at the mines of Granada. This was partly compensated for by an increase at Almaden of 570 tons and the slight increase of 85 tons at Oviedo. The number of quicksilver mines increased from 17 to 22, and the number of persons employed from 1,334 to 1,398.

The seven antimony mines of the Provinces of Ciudad Real, Huelva, Leon, and Lugo yielded 515 tons of that mineral in 1916, in comparison with 300 tons the year before. There were 387 tons from the Province of Lugo alone, where mines near Caurel produced more than double the quantity obtained the previous year. Prices realized for this metal encouraged the introduction of new machinery, and preparations were made for extensive exploitation.

From 10 mines, the largest of which is in Albacete, 46,923 tons of sulphur were extracted in 1916, compared with 6 mines and 28,937 tons during the previous year. The laborers employed, however, decreased from 793 to 699 in 1916. The important sulphur deposits in the district of Hellin yielded 35,000 tons, which is the normal annual production for the mines of that region.

The production of 10,507 tons of barium sulphate in 1916 was about two and half times as much as that of 1915. The two small mines of Gerona yielded the greater part of the mineral, but some also came from mines in Almeria and Navarre, which were unproductive in 1915. The output has steadily increased during the past decade.

Of the four small mines which in 1915 produced 102 tons of tin ore, only two were worked in 1916, with a yield of 86 tons. Although there was an increase from 13 to 19 mines where wolfram was obtained the quantity decreased from 511 to 455 tons. The wolfram deposits of Zamora, which previously contributed over half the total production, were apparently very rich in this mineral for the first few feet below the surface, but, although the veins are perfectly regular, extensive zones are encountered of complete sterility, making the future of the mines uncertain.

Gold Mining Revived—Prospecting for Platinum.

In 1909, 13 tons of gold ore were mined in Spain, but since then gold has not figured in the mineral statistics until 1916, when 376 tons of auriferous quartz were extracted from one mine in the Province of Almeria. Alluvial gold was discovered in 1917 in the Province of Huelva along the left bank of the Tinto River, where the formation of the country is said to be like that of certain localities in California. Stones have been found rich in gold visible to the naked eye, and in the bed of one of the streams traversing this district there are evidences of gold-yielding deposits. Preparations are being made to resume work on a mine in the Province of Corunna, which was abandoned by the exploiting company on account of the small quantity of the metal obtained.

In the district of Ronda in the Province of Malaga, where platinum deposits were discovered a few years ago, prospecting is being carried on by the Spanish Government. The right of search reserved by the State for two years was extended for a further period of two years by a royal decree published November 16, 1917. The State is thus enabled to pursue investigations for platinum and other minerals useful in national defense. The object of the investigations is to ascertain the industrial value of the platinum, chrome, and nickel supposed to exist in that zone. In the investigations for platinum 78 pits have been sunk on the Verde River and 109 on the Guadaira. Along both rivers much platinum has been encountered at a depth not exceeding 90 feet below the surface. Ten chrome beds have been found, and the prospect of deposits of magnetite, chrome iron, and nickel is reported to be favorable.

Petroleum and Potash.

There are many indications that petroleum may be produced in various parts of Spain, and at certain points in Aragon, Navarre, Teruel, Alicante, Castellon and Malaga slate has been found containing volatile matter. In the Levante and in Vizcaya, works have been

installed for treating this slate and extracting the oil, which is said to have greater caloric potentiality than coal oil.

Work was begun on the rich potash beds of Catalonia, which have been reserved by the Government since October 1, 1914. A small railroad was built and machinery was installed for a well-known Belgian company to work the fields and market the potash on a commercial basis.

Leading Crops.

According to statistics published by the Ministry of Public Instruction, there were at the beginning of 1917, 124,837,000 acres of land in Spain under cultivation, of which 32,699,000 acres were productive and 92,138,000 acres unproductive. The greatest area is devoted to wheat and other cereal crops, followed by olives, grapes, vegetables, industrial plants, fields and meadows, tubers, and fruit trees, bushes, and the like.

The volume of the leading crops in 1916 and 1917 is given in metric tons in the following table:

Product.	1916	1917	Product.	1916	1917
	Tons.	*Tons.*		*Tons.*	*Tons.*
Wheat	4,145,752	3,883,002	Corn	727,547	746,023
Grapes	3,958,151	4,069,314	Beans	401,566	207,209
Olives	1,146,599	2,207,700	Rice	241,708	236,700
Barley	1,891,242	1,697,324	Chick-peas	130,512	124,385
Oats	466,855	479,877	Peas	30,487	34,968
Rye	731,100	614,790			

Viniculture Successful During 1917.

In 1917, 4,069,314 metric tons of grapes were gathered, compared with 3,958,151 tons in 1916. In this production the region of New Castile stands first, with 1,284,569 tons, followed by Catalonia with 1,030,813 tons. During the past five years Catalonia has contributed the greatest quantity of grapes except in 1915, which was a disastrous year for the vineyards of the whole country, especially for those of northeastern Spain. The total area devoted to vineyards in 1917 was 3,198,351 acres, compared with 3,173,404 acres in 1916 and 3,080,218 acres in 1915.

In some parts of southern Spain where large interests are centered in the exportation of fresh grapes, there was considerable suffering from lack of shipping facilities. To alleviate this situation the Government appropriated funds to be loaned without interest and repayable in installments. The raisin business suffered through lessened export, only about half the quantity of 1916 being shipped in 1917.

Export of Wine Important.

Of the total grape yield 3,856,691 tons were used for wine making in 1917, compared with 3,721,438 tons in 1916; and the amount of must produced in 1917 was 627,737,238 gallons, compared with 618,054,062 gallons in 1916. The vintage of 1917 added materially to the commercial prosperity of the country, as the value of exported wine of all classes comprised one-seventh of Spain's total exports and amounted to $33,777,849. This is far above the average value of the wine exports, which in 1916 amounted to $27,700,000, in 1915

to $11,000,000, and in 1914 to $15,000,000. Red wine is the principal article of this export, its value in 1917 being $25,265,388, of which $22,885,380 worth was shipped to France.

The export of fine wines decreased as belligerent nations diminished their purchases of luxuries. However, Malaga wines were largely bought for the use of the sick, France having imported $2,247,120 worth in 1917 as against $894,240 worth in 1916. This increase compensated for lessened exports to England and Italy. The export in bottles was slight.

Toward the close of the year France placed certain restrictions on the importation of wines. These measures, which were particularly grave for the wine makers of Spain, created export and import complications that are not yet settled.

Spain imports comparatively little wine, as is natural, such imports being chiefly confined to champagne and fine bottled wines. These increased, however, as a result of the commercial prosperity of the country, from $197,015 worth in 1915 to $246,356 in 1916 and $292,986 in 1917.

Though the 1917 exports of alcohol were about the same as in 1916, liquors decreased from $2,322,944 in 1916 to $1,273,158 in 1917, not only on account of the reductions in purchases of luxuries by belligerents, but also because of legislation against alcoholic beverages.

Increased Production of Olives and Olive Oil.

The total area devoted to olive culture in 1917 was 3,717,058 acres, from which 2,207,700 tons of olives were gathered. This was nearly double the production in 1916, which amounted to 1,146,887 tons and was the greatest yield of the past five years. Of this amount 2,149,914 tons went to the presses in 1917, and the oil extracted amounted to 427,838 tons, in contrast to 1,110,153 tons pressed in 1916, with 207,115 tons of oil. This increase was greatest in Andalusia, where the olives gathered amounted to over 1,415,000 tons, while in 1916 that district produced 616,750 tons. The crop in Catalonia increased from 182,067 tons in 1916 to 247,784 tons in 1917. It is interesting to note that the crop is usually greater every other year. In 1915, 1,772,887 tons were gathered, but the 1917 crop far surpassed precedents of recent years.

Olive oil is employed generally throughout Spain in cooking practically to the exclusion of other oils and fats, and its price is an important item in domestic economy. Early in June, 1917, the retail merchants began raising the price of this commodity until it finally doubled. This rise was generally attributed to increased export. Shipments had risen from 44,881 tons in 1914 to 67,183 tons in 1915 and 88,852 tons in 1916, and those in 1917 promised to exceed all previous years. This was regarded as the more alarming in that the oil yield of 1916 had been smaller than the year before. Accordingly on July 5, 1917, a royal order prohibited the export of olive oil from Spain and the Balearic Islands until November 15, exempting for 20 days such shipments as had been invoiced at the place of origin before and including the day of the publication of the order. An exemption was also made for fine oils exported in bottles or tins under labels or brands registered before the publication of the order, in case such shipments were accompanied by a certificate viséed by an agronomical

chief of the Province of origin showing that the acidity of the oil to be exported as fine oils did not exceed 1°.

The provision to permit the export of fine oils only in bottles and tins was subsequently modified, authorizing its shipment in barrels and casks as well. This was a concession made in part to the coopers who claimed that the former ruling would seriously injure their business because many wooden containers had been ordered, especially for the export of fine oils to America. The olive-oil exporters supported the cause of the coopers on the ground of the scarcity of tin plate in Spain. The regulation that the brands be registered before July 4 was also modified, and a provision was made for the export of fine oil commercially known before that date. These modifications resulted in altering the export trade rather than in reducing it, and the total exports in 1917 amounted to 81,570 metric tons, a decrease of only 7,282 tons compared with the previous year. At the close of the year the embargo had not been removed.

Supply of Wheat Limited.

The acreage sown in wheat in 1917 was 10,339,961, an increase compared with 10,172,872 in 1916, and 10,036,800 in 1915. Of the area sown in 1917, 9,705,480 acres were dry soil and the remainder irrigated. The total quantity of wheat raised was 3,883,002 metric tons in 1917, compared with 4,145,752 tons in 1916, and 3,791,102 tons in 1915. This decrease in the yield, despite the increased area devoted to its cultivation, was chiefly due to reduced crops in the great wheat fields of New and Old Castile resulting from unfavorable climatic conditions. The wheat crop of Catalonia, the Levante, Estremadura, Vascongada, and Aragon was greater in 1917 than in 1916.

In addition to the domestic wheat crop of 1916, Spain was able with some difficulty to import 314,906 tons of wheat from abroad, 235,708 tons coming from the United States; but shortly after entering the war the United States limited the export to neutrals. Wheat was then brought from South America, but the total quantity imported in 1917 fell to 50,570 tons. This brought the supply of the country in 1917 down to 3,933,572 tons, as against 4,460,658 tons in 1916, a decrease of 527,086 tons.

Vigorous measures were taken by the Government to solve the wheat question. The central provisions board took an inventory early in the year of the wheat supply, and its investigations showed that on January 27, 1917, there were 1,700,000 tons of wheat and 100,000 tons of flour available. The 100,000 tons of flour were taken to represent 125,000 tons of wheat, bringing the stock up to 1,825,000 tons. This quantity was thought sufficient to supply the country's needs through July, when the new crop would be available. However, inasmuch as Spain during the last 20 years has imported an average of 234,000 tons of wheat annually, the acquisition of 200,000 tons from abroad was authorized to avoid the risk of a shortage. Special freight rates were arranged both for import and distribution of wheat, hoarding was prohibited, and efforts were made to keep down prices.

Yields of Barley, Oats, Rye, and Corn.

The area sown in barley in 1917 was 4,006,458 acres, 3,782,735 acres of which were unirrigated, against 3,886,026 acres in 1916. The total amount of barley raised in 1917 was 1,697,324 tons, a decrease com-

pared with the barley crop of 1916, which amounted to 1,891,242 tons. The regions producing the largest quantities were New Castile, Old Castile, Aragon, and the Levante.

Oats were sown in 1916 on 1,398,366 acres, compared with 1,397,938 acres the year before. The land was chiefly in dry districts, only 18,303 acres being irrigated. The total amount of oats raised was 479,877 tons, compared with 466,855 tons in 1916.

Of 1,804,542 acres devoted to the cultivation of rye in 1917, only 934 acres were irrigated; the acreage in 1916 was 1,845,714. The crop of 1917 amounted to 614,790 tons, compared with 731,100 tons in 1916. The leading districts in this production were Leon and Galicia, which together yielded more than half the crop.

Corn was sown in 1917 on 1,175,447 acres, as against 1,154,416 acres in 1916. Of this acreage, 922,587 were dry land and the remainder irrigated. The corn crop of 1917 was greater than during the previous two years, amounting to 746,023 tons. Imports of corn fell from 206,621 tons in 1915 and 108,056 tons in 1916 to 55,357 tons in 1917.

Rice and Vegetable Crops.

The rice fields of Spain under cultivation in 1917 covered 105,655 acres and yielded 236,700 metric tons of rice, an increase in acreage compared with 100,393 acres in 1916, but a decrease in production compared with 241,708 tons harvested during that year. The fields of Valencia and Tarragona supplied most of the crop. Owing to export restrictions, rice exports in 1917 amounted to only 351 tons, compared with 3,306 tons the year before.

In 1917 there were 8,495 acres devoted to the cultivation of canary seed, yielding 3,033 tons of seed as against 9,108 acres and 3,237 tons in 1916. Sorghum was cultivated on 3,768 acres with a crop of 1,134 tons, against 3,933 acres and a crop of 1,225 tons in 1916. The yield of millet was 2,204 tons from 5,350 acres, a decrease compared with the year before.

During the year 520,316 acres were devoted to chick-peas, and 124,385 tons were harvested, compared with 501,708 acres and 130,512 tons in 1916. Andalusia and New Castile led in this production. Horse beans were grown on 519,567 acres, yielding 211,401 tons in 1917, against 496,306 acres and 206,077 tons in 1916.

Decreased Exports of Fruits and Nuts.

About 901,915 acres in Spain are devoted to the cultivation of fruit and nut trees, and the value of the products amounted to about $47,000,000. In 1916 the total yield was 2,375,713 tons. These crops, consisting chiefly of oranges, lemons, and almonds are greater than are required for domestic consumption and form important items of export. Naturally the shipping difficulties of 1917 greatly decreased the profits of fruit and nut growers in Spain. The exports of oranges fell from 382,730 in 1916 to 246,393 tons in 1917; lemons from 7,105 tons in 1916 to 4,253 tons in 1917; almonds from 9,772 tons in 1916 to 9,068 tons in 1917; whereas, compared with shipments abroad in 1916, filberts increased from 5,332 to 7,039 tons, and walnuts from 1,629 to 1,890 tons.

These figures show the influence of the war on this branch of Spanish agricultural and commercial life but do not indicate any

permanent condition. The result brought about certain incidental advantages; for instance, better oranges were offered on the Spanish market because of the inability of exporters to ship to foreign markets. The bananas of the Canary Islands are usually so largely exported to England that very few remain for the Peninsula, but during the past two years bananas in Spain were abundant and of excellent quality. In order to use the surplus from the Canaries the new industry of making banana flour is being introduced.

Crops in General Inferior.

Exact statistics as to the yield of oranges, lemons, other fruits, and nuts in 1917 are not available, but in general it appears that slightly inferior crops were gathered. An important feature of the business is the sour orange used for marmalade. In recent years the entire production has been purchased before ripe by British firms. This crop was damaged by frosts during 1917 and was from 50 to 75 per cent less than normal. Bad weather also had disastrous effect on the sweet-orange crop in some extensively cultivated districts.

Lemon trees suffered from the prolonged cold, and the crop was somewhat inferior to that of previous years. The fig crop, although retarded by the weather, was very satisfactory and the figs were of good quality. This was fortunate for shippers, because the war having cut off Turkish figs and embargoes having limited the export of the Greek and Italian fruit, Spanish dried figs have been much in demand. The export increased from 10,033 tons in 1916 to 20,111 tons in 1917, whereas before the war it ranged between 2,000 and 5,000 tons.

Reports from some districts show that the almond crop of 1917 materially suffered from the extreme cold when the trees were in blossom. The Jordan almond is less hardy than the Valencia almond, and many valuable trees were injured. The filbert crop was better than usual, but in spite of increased exports, large stocks awaiting favorable shipping conditions accumulated.

Lack of Transportation Hampers Fruit Trade.

The scarcity of vessels and irregularity in sailings resulted in the collection on the wharves of great quantities of fruit. Crates and boxes were stacked often unprotected in the open air. The perishable contents were in many instances ruined by rain and sun. The ships that called gave preference to full cargoes of more important merchandise. In March the Government took measures to prevent this loss and issued an order that ships loading cargo for abroad at Levantine Spanish ports would not be cleared by the authorities unless they consented to apportion 10 per cent of their cargo space to fresh fruit. This regulation was only applicable in cases where supplies of fruit awaiting export were consigned to the same destination as that for which the ship was sailing.

In December a committee composed of members of the chief orange-growing districts was appointed officially to distribute the freight space equally, and steps were taken during the season to move the crop. However, so many crates and carloads of oranges perished along with other fruit, such as lemons and grapes, that in December the Government appropriated $2,160,000 to be used to as-

sist growers of oranges, lemons, and grapes for exportation in the Provinces of Alicante, Almeria, Castellon, Murcia, and Valencia. Loans made under the conditions of appropriation do not bear interest and are repayable during a period of five years in amounts of one-fifth each year.

Live-Stock Statistics—Sugar Production.

Live stock in Spain, at present, as stated in statistics published by the Ministry of Public Works, numbers nearly 35,000,000 head, classified as follows: Horses, 699,851; asses, 1,068,182; mules, 1,232,234; cows, 3,712,008; sheep, 18,601,349; goats, 4,475,556; hogs, 4,997,188; and camels, 4,268. Domestic fowls number 20,223,692. These figures represent an increase over those published in 1915, when the total live stock amounted to 27,314,812 head. The greatest increase was in the number of sheep raised, which amounted to 2,706,741 more than in 1915. The Province of Badajoz led in sheep raising, with nearly 1,500,000 head. Mules have increased by 280,000, asses by 240,000, goats by 1,259,000, and hogs by 2,114,000. The Provinces of Corunna and Oviedo led in the number of cows, Ciudad Real and Malaga in the number of goats, and Lugo in the number of hogs.

The approximate area devoted to the cultivation of sugar cane in Spain during 1917 was 4,621 acres, yielding 63,763 tons of cane. There were 146,456 acres devoted to sugar-beet cultivation for the 1917–18 campaign, and by December 31, 1917, the yield was 679,792 tons. The price paid for cane at the factories fluctuated between $6.30 and $9.90 per ton, while sugar beets brought from $9 to $14.40.

Raw material entering the sugar factories in 1917 amounted to 1,015,279 tons, from which 4,584 tons of refined cane sugar and 119,592 tons of refined beet sugar were produced, making a total of 124,176 tons. This production was greater than that of 1916 by 8,371 tons, although considerably less than that of 1912, 1913, and 1914.

Sugar imports increased during 1917 to 39,172 tons, compared with 18,331 tons imported in 1916 and 43 tons in 1915. Sugar exported in 1917 amounted to 3 tons, in contrast to 2,408 tons in 1916 and 8,756 tons in 1915.

Supply and Consumption of Sugar.

In addition to the quantity of domestic sugar which left the refineries 2,230 tons of foreign sugar were put upon the market during 1917 after undergoing further refining in Spanish mills. In order to determine the actual quantity of sugar consumed in Spain in 1917, the amount imported should be noted and with it the quantity in the mills and various warehouses, the entire sugar stock on December 31, 1916, being calculated at 84,662 tons. With the sugar produced and the sugar imported, the total for 1917 was 248,010 tons. At the close of the year these stocks amounted to 79,908 tons, making a total consumption of 168,102 tons during the year. The stock on hand at the close of 1917 was less than that of any year for the past decade.

The glucose produced in Spain during the last 10 years has averaged 1,802 tons annually, but in 1917 only 549 tons were manufactured. This reduction was due to lessened import of potato flour, which is the raw material chiefly employed. There were 50,416 tons

of molasses produced in 1917, compared with 36,520 in 1916. Most of the molasses is used by the distilleries.

The wholesale prices of sugar in the markets of Barcelona have increased during the past five years until in 1917 they averaged on all classes an advance of about 50 per cent compared with prices in 1913.

Increased Activity in Canning Factories.

The difficulties encountered in the export of fresh fruits and vegetables brought about increased activity in the canning factories, and results would doubtless have been even more satisfactory but for a shortage of tin for containers. Canned goods were consumed in greater quantities on the domestic market, although to what extent is not shown by statistics. The export of canned goods, comprising vegetables, fruits, and fish amounted to 30,299 tons in 1915, to 35,370 tons in 1916, and to 41,244 tons in 1917. The increase was not uniformly distributed, preserved goods having fallen off slightly, while vegetables such as beans, peas, and tomatoes increased. The export of canned fish was nearly doubled, having amounted in 1916 to 6,656 tons and in 1917 to 12,121 tons. Preserved goods of other animal products rose from 86 tons in 1916 to 616 tons in 1917, largely as a result of orders for armies.

Spanish canned fish products are consumed in nearly all foreign countries. Italy has usually been the principal purchaser, followed by Cuba and France. Much of the goods is packed in tins bearing non-Spanish inscriptions, and, though generally shipped abroad, is occasionally offered to the Spanish consumer. There are also tins especially adapted to exportation, which are inexpensive and bear no inscription. These plain boxes are enveloped in transparent paper on which the inscription is printed.

In Galicia, the principal district for canned fish, about 100,000 persons live from the industry. The 270 fish-salting and 108 fish-canning factories represent, respectively, 63 and 62 per cent of such establishments in Spain.

The shortage of tin reduced the profits in the canned-goods business in 1917. The price rose to such an extent that the cost of a can, formerly insignificant, was of greater value than the contents, particularly in the case of vegetables.

Trade with Spanish Colonies.

Outside the Peninsula and adjacent islands, Spain has possessions on the Rio de Oro and Ifni, with an area of 82,764 square miles; Spanish Guinea, 10,039 square miles; Islands of Fernando Po, 800 square miles, and the protectorate in Morocco, 11,583 square miles. Commerce with these colonies is of importance in that the exports to them represent approximately three times the value of the imports from them to Spain. The chief articles of export to the colonies in 1917 were flour, barley, straw and fodder, potatoes, sugar, rice, chick-peas, wheat, and beans. Imports of cocoa from Fernando Po amounted in 1916 to 3,804 tons and in 1917 to 3,747 tons, while imports of coffee amounted to 1 ton in 1916 and 9 tons in 1917. The total value of Spain's exports to North African possessions, Canaries, Rio de Oro, Fernando Po, and the zone of Spanish influence in Morocco amounted in 1917 to $3,713,220.

Spanish Zone in North Africa.

The Spanish Government's disbursements in Morocco amounted to $20,481,622 in 1917 and to $27,000,929 in 1916. The chief item of the budget was $18,587,997, expended by the Ministry of War, a contrast to 1916, when $23,000,000 was devoted to the same purpose.

Spanish commerce with Ceuta and Melilla in 1916 covered $230,678 worth of imports into Spain from those ports and $2,438,999 worth of exports thither. The exports consisted chiefly of cattle and grain, while hides formed the bulk of the imports. To Melilla, 4,170 tons of barley and 2,695 tons of wheat were exported.

The total commerce of Tetuan and Larache, including imports and exports, developed at a rate of 15 per cent. Almost all the commerce of Tetuan was with Spain, having amounted in 1916 to $2,165,184 of the total of $2,741,166. Two-thirds of the commerce of Larache was with Spain and one-third with Great Britain.

A number of new Spanish companies were formed in Morocco during 1917, the most important being a sugar refinery at Melilla. A maritime company was also organized to promote traffic between Spanish and Moroccan ports. The financial organization of the zone was greatly benefited by the creation of a new bank, the Hispano-Africano. Its object is to encourage and support agricultural enterprises by subventions and loans, to aid in the purchase of seeds, fertilizers, and machinery, and otherwise facilitate the development of Spanish interests in Morocco.

Trade Between Spain and Morocco Encouraged.

In response to requests from a number of merchants, the Minister of the Treasury by royal order authorized certain privileges for the stimulation of commercial intercourse between Spain and the zone of Spanish influence in Morocco. To the products and manufactures originating in the zone will be applied the benefits already accorded to free ports and African possessions. The quantity of raw wool exportable from Spanish North Africa was fixed at 150 tons annually.

The economical development of the country progressed as a whole, although building conditions were unsatisfactory, new constructions rare, and real estate transactions few. On the railroad from Ceuta to Tetuan 23.61 miles of new road were completed between Rincon de Medic and Tetuan. The Ceuta to Tetuan railroad contracted for six engines, of which four were put into service during 1917.

The Banco de Morocco placed in circulation new bills of 20 pesetas (about $3.60) in order to facilitate small payments which could not be negotiated by the then-existing 100-peseta notes. The denomination of the new paper bills is printed in Spanish, French, and Arabic.

Silk culture in Morocco, much neglected in the past, is developing under the patronage of the Government. During the last half century it was almost abandoned, because of silkworm diseases which the natives were unable to combat successfully. In 1914 an educational campaign in this line was undertaken by the Administration del Protectorado. In 1915, there were only 12 cultivators of silkworms, but the following year their number had increased to 36, and in 1917, 108 persons received silkworm eggs. Incubation is

accomplished by means of artificial incubators. Only slight incursions of disease occurred and those were readily controlled.

American Chamber of Commerce for Spain—Free Depots.

A highly important factor in the development of export trade with the Peninsula is the American Chamber of Commerce for Spain, with headquarters at Barcelona. This organization, with offices centrally situated and a growing membership, is doing much to facilitate commercial relations between American and Spanish importers and exporters. Through the efforts of the American Chamber of Commerce for Spain, many American exporters have been put in touch with Spanish buyers, and profitable business has resulted. Spanish merchants, on the other hand, wishing to learn of markets for their goods, have received valuable information that has led to the meeting of American demands along certain lines. The results of the cordial business intercourse thus initiated will be more evident when the numerous impediments to commerce caused by the war are removed.

The establishment of free customs zones in Spain marks an epoch-making innovation in Spanish commerce. After many years of discussion by Spanish economists, commercial men, and others interested, the royal decree of September 22, 1914, accorded to the port of Cadiz the right to establish a free customs zone. Immediately other great Spanish ports, particularly Barcelona, petitioned for a similar privilege, and it was granted Barcelona on October 24, 1916. Fostered by the Department of Commerce and aided by the constant efforts of consular officers in Spain, the trade of the United States with Spain has expanded, and every opportunity should now be taken advantage of by American manufacturers and exporters to extend their operations by the use of these ports in process of development.

Provisions Governing Free Depots.

Under the provisions governing the establishment of free ports, the Government grants the concession to certain local organizations. That for Barcelona was vested in an association of a group of federated bodies, and in October, 1917, the statutes regulating the working of the governing body which obtained the concession were approved. Thus at the close of 1917 all necessary official formalities for the free port of Barcelona had been complied with, and work on the actual utilization of the privilege was being pushed rapidly. This port is to be run on exactly the same lines as that of Cadiz and each is known officially as a deposito franco, or free depot.

The governing body is empowered to engage in construction work of all kinds; to contract for the supply of materials; to accept subsidies and raise loans; to issue warrants for the receipt of goods; and, should it be deemed advisable, to lease one or more of the branches of the depot. It is also authorized to control the installation of the depot; to make regulations; to approve projects, rules, and tariffs; and to rent or purchase buildings and machinery. It also has control of the financial resources and the receipts of dues and tariffs. This body is in fact the owner of the free zone under the tutelage of the Government and the group of federated bodies indicated.

There was no legislation enacted as to the depositos francos, matters having been arranged on the basis of royal decrees granting the

concessions to the ports and the royal order of October 22, 1914, fixing the regulations. These regulations stipulate that, within the free inclosure, all foreign merchandise may be entered such as is now admitted in the customs precinct at the port, including tobacco, raw and manufactured, and all Spanish merchandise the exportation of which is not embargoed. These commodities lose their nationality on entering the entrepôt and are to be regarded as if sent abroad. Merchandise brought into the free zone is not permitted to remain more than four years, after which period it must be exported or made available for consumption in Spain.

Advantages of Free Depots.

Operations permitted in the free depot cover change of packing of merchandise, division of merchandise for retail use, preparation and roasting of coffee and cocoa, shearing of skins, preparation of woods, washing of wool, and extraction of oil from copra and oleaginous seeds. In fact, all operations are allowed that increase the value of the goods entered without essentially changing its character.

The Government does not guarantee the continued existence of the free depots, but it places the goods stored there under the safeguard of the Spanish law and gives special assurance that the commodities stored therein shall under no circumstances be subject to reprisals on the part of the Spanish Government, not even in the event of war with countries of which the owners, shippers, or consignors of the same may be citizens. Laws, regulations, and existing treaties as to industrial property, trade-marks, patents, and commercial names will be applicable and effective in the free depot. The Government reserves the authority to revoke a concession to any corporation operating in the zone at the option of the Government.

These free depots are of far-reaching international importance, particularly owing to the geographical situation of Spain. The free depot of Barcelona has invited American interests, through the American Chamber of Commerce for Spain, to rent a part of the zone for their especial use, put up buildings, and install all the apparatus needed. An advertising campaign should be generously financed, care taken in packing, and the tastes of the Spanish market carefully considered. The question of credits does not for the moment require the same liberality as heretofore, and cash against documents is now generally given.

It is stated that the United States received the first invitation of this kind, and it would doubtless be of great advantage to American commercial expansion in Spain if a number of large American firms would unite in leasing a section of the space allotted to the deposito franco of Barcelona. Enemy interests are reported to be already negotiating for a large share of the zone, with a view to post-bellum trade expansion.

Demand for American Products.

The demands for American products on this market at present are unlimited and American goods of every variety find a ready sale. Statistics show that the United States was the chief source of Spain's supplies as a whole during 1917, and but for trade restrictions and lack of shipping facilities far greater purchases of American merchandise would have been made. That this advantage was the re-

sult of lack of competition owing to the war is evident, and American shippers should bear in mind that those who formerly controlled much of the commerce here will endeavor to regain their old-time supremacy. As a means of retaining our present strong commercial foothold in Spain, the American exporter should prepare ample advertising matter in Spanish, giving weights and measures in the metric system, should quote terms f. o. b. American ports, and send abundant samples.

Tariff Legislation.

During 1917 the Spanish Government dictated measures in relation to duties which were found necessary in order to favor the importation of some articles and to restrict or prevent the exportation of others indispensable to domestic economy. Many articles appear temporarily on either the list of embargoes, the list of articles subject to export duties, or the list of articles from which import duties have been removed. These temporary rulings were made by royal order or decree.

A royal order published on February 3, 1917, provided that after March 1, 1917, petroleums and other mineral oils of foreign origin imported into Spain and the Balearic Islands, then duitable under the customs tariff as oils destined for fractional distillation in Spanish refineries, should be exempt from customs duties on entry and that a bond for the amount of duty leviable should be required by the customs from the importers. The process of distillation will be under Government inspection; and gasoline, and illuminating and lubricating oils derived will be stored in the refineries under the control of revenue officers. Duties will be collected on the oils when they leave the refinery.

Gasoline in receptacles containing less than 26.42 gallons must be stamped to show payment of duty and place of origin. Shipments of gasoline, and lubricating and illuminating oils in quantities greater than 26.42 gallons must be accompanied by a certificate as to origin.

On the expiration of the monopoly for explosives on September 1, 1917, a special consumption tax on explosive powders and mixtures produced in Spain was levied, while on those imported from foreign countries and not specially designated were levied specific consumption taxes independent of the import duty.

Declared-Export Returns of Barcelona District.

In the following table are detailed the quantity and value of the exports to the United States for the calendar years 1916 and 1917, according to invoices certified at the Barcelona consulate general:

Articles.	1916		1917	
	Quantity.	Value.	Quantity.	Value.
Antimony, regulus.....pounds..	111,760	$29,058	.....	.....
Antiques:				
Furniture.....	.....	688	.....	$6,883
Other.....	.....	18,412	.....	.....
Art works: Oil paintings.....	.....	18,460	.....	8,924
Carbons, electric.....100 feet..	4,945	17,836	260	1,376
Chemicals, drugs, and medicines:				
Antimony oxide.....pounds..	297,688	66,577	.....	.....
Argols.....do....	2,147,561	320,889	1,227,663	159,498
Flowers and leaves, crude.....do....	56,834	5,105	34,885	3,525

Articles.	1916		1917	
	Quantity.	Value.	Quantity.	Value.
Chemicals, drugs, and medicines—Continued.				
Fusel oil.....do....	154,824	62,583	24,390	10,462
Gentian root.....do....	83,422	11,007	35,227	4,757
Glycerin, crude.....do....	1,502,277	522,966	255,418	99,034
Licorice—				
Paste.....do....	874,538	135,693	761,862	208,989
Root.....do....	994,525	73,935	3,400,654	371,600
Lime tartrate.....do....	237,217	34,680	556,359	75,268
Pharmaceutical products, n. e. s.....	.....	206	.....	89,874
Potash, carbonate.....pounds..	405,944	60,337	567,638	87,628
Potash, saline.....do....	11,023	1,215	176,136	16,53
Thymol.....do....	161	1,056	10,144	22,221
Cork, and manufactures of:				
Cork paper.....	.....	137,278	.....	21,922
Disks for bottles.....pounds..	259,373	207,551	345,994	288,494
Insulation in slabs.....do....	.....	.....	2,767,304	131,692
Shavings and waste.....do....	37,731,355	425,935	41,781,008	568,038
Soles.....do....	17,376	2,808	37,862	5,901
Stoppers.....do....	147,750	122,959	209,990	181,988
Wood, unmanufactured.....do....	.....	.....	1,816,324	17,301
Cotton, and manufactures of:				
Cloth (piece goods).....square yards..	27,079	7,588	11,874	4,423
Waste.....pounds..	291,513	14,965	.....	.....
Fibers, vegetable:				
Linen handkerchiefs, embroidered.....	.....	28,550	.....	44,226
Hemp, raw.....pounds..	.....	.....	147,946	20,505
Rope.....	.....	.....	.....	26,479
Sacks and bags.....pounds..	.....	.....	659,937	32,630
Fruits and nuts:				
Oranges.....number..	868,472	4,727	.....	.....
Preserved fruit.....pounds..	2,106	171	146,582	10,897
Almonds—				
Shelled.....do....	20,455	4,643	18,167	3,649
Unshelled.....do....	297,621	30,227	49,240	6,336
Filberts—				
Shelled.....do....	72	21	113,674	21,280
Unshelled.....do....	.....	.....	142,416	12,338
Gelatin, and manufactures of.....do....	.....	.....	44,092	11,274
Glue and glue size.....do....	.....	.....	387,877	61,851
Gut, and manufactures of.....	.....	9,177	.....	11,966
Hides and skins:				
Goat skins.....{pounds ..	968,151	719,593	691,125	923,690
.....{pieces ...	716,409		438,049	
Sheep skins.....{pounds ..	6,002,515	2,143,880	3,287,053	1,651,050
.....{pieces ...	2,561,809		1,339,619	
Hardware.....	.....	297	.....	8,782
Household effects of immigrants.....	.....	33,389	.....	7,823
Leather, and manufactures of:				
Soles and uppers for boots and shoes.....	.....	.....	.....	13,966
Tanned sheepskins.....	.....	66,817	.....	148,884
Other tanned skins.....	.....	2,721	.....	11,724
Lumber: Furniture and bobbins.....	.....	24,141	.....	54,631
Musical instruments: Strings for (gut).....	.....	9,610	.....	4,697
Oils, vegetable:				
Olive.....gallons..	504,411	594,436	1,320,094	1,869,972
Rosemary, lavender, etc.....poumds..	19,953	13,220	.....	.....
Paints: Lithopone.....do....	174,614	14,073	.....	.....
Paper, and manufactures of:				
Books in Spanish.....	.....	5,584	.....	8,592
Paper stock, fiber waste.....pounds..	3,043,320	84,322	652,245	29,157
Rags.....do....	4,655,848	205,635	623,467	10,700
Waste bagging.....do....	4,223,336	100,723	448,288	14,034
Other paper stock.....do....	540,341	26,203	314,775	21,942
Pearls, imitation.....	.....	39,476	.....	.....
Peppers, sweet, canned.....	.....	23,361	.....	122,635
Quicksilver.....pounds..	7,820	20,448	.....	.....
Seeds:				
Alfalfa.....do....	56,215	10,335	.....	.....
Anise.....do....	21,505	2,736	50,344	7,582
Cummin.....do....	.....	.....	71,321	8,623
Smoking material: Cigarette paper.....	.....	4,422	.....	10,164
Wines:				
Still, in bottles.....dozen bottles..	101	617	80	419
Still, in bulk.....gallons..	12,000	6,440	44,548	31,020
Sparkling.....dozen bottles..	464	4,306	295	2,752
Wool, and manufactures of:				
Scoured.....pounds..	148,074	67,276	239,277	194,157
Unwashed.....do....	668,320	148,971	311,368	114,393
All other articles.....	.....	67,866	.....	172,105
Total.....	.....	6,818,192	.....	8,081,991

Exports to Philippine Islands and Porto Rico.

In the following table is shown the value of the exports to the Philippine Islands and Porto Rico for the years 1916 and 1917 according to invoices certified at the Barcelona consulate general:

Articles.	1916	1917	Articles.	1916	1917
TO PHILIPPINE ISLANDS.			TO PORTO RICO.		
Breadstuffs	$9,874	$9,443	Breadstuffs:		
Buttons, bone	10,185	13,760	Biscuits, cakes, etc	$3,472	$6,219
Candles, stearin, wax	2,803	9,472	Macaroni paste	11,722	2,531
Chemicals, drugs, and medicines	28,752	6,357	Macaroni soup paste	.....	5,337
Cork, and manufactures of	7,956	9,255	Chemicals, drugs, and medicines	2,453	17,030
Cotton, and manufactures of	97,873	23,755	Cotton, and manufactures of:		
Earthen, stone, and china ware	9,077	1,705	Blankets and quilts	3,820	21,873
Fibers (vegetable), and manufactures of	72,909	40,381	Fibers, vegetable, and manufactures of:		
Fish	28,942	26,367	Laces, embroideries	.....	5,082
Fruits and nuts	13,176	7,665	Linen and cotton piece goods	.....	4,168
Iron and steel manufactures of	7,748	7,276	Linen piece goods	8,439	13,944
Leather, and manufactures of	40,311	44,382	Sacks and bags	.....	13,160
Meats and dairy products	16,179	41,470	Shoes, hemp	1,862	5,507
Motion-picture films	33,378	3,851	Leather, and manufactures of:		
Musical instruments and parts of	14,290	4,045	Boots and shoes	10,259	10,120
Oil, olive	26,193	27,626	Meat: Sausages	6,474	7,126
Paper, and manufactures of	114,751	153,725	Motion-picture films	14,264	12,258
Perfumery	9,242	10,487	Oil, olive	32,144	29,381
Smoking articles: Cigarette paper	44,700	117,856	Paper, and manufactures of:		
Silk, and manufactures of	11,830	9,372	Books in Spanish	11,513	16,402
Spices	3,051	7,350	Cardboard	162	11,818
Spirits, etc	33,849	41,562	Wrapping paper	42,303	55,309
Vegetables	45,958	60,555	Smoking materials: Cigarette paper	4,174	31,381
Wool	2,788	3,764	Spirits and wines:		
All other articles	39,408	21,457	Wine, still, in bottles	6,626	5,604
Total	725,223	705,388	Sugar candy and confectionery	1,276	4,006
			Vegetables:		
			Garlic	88,997	80,814
			Potatoes	.....	7,433
			All other articles	85,510	82,448
			Total	335,470	448,951

Declared Exports from Agencies at Palamos and Corunna.

In 1917 exports to the United States, as invoiced at the consular agency at Palamos, were valued at $1,458,492, cork disks, the chief item, making up $1,142,417 of this amount.

The declared exports invoiced at the Corunna agency for the United States in 1917 were valued at $13,901, those for the Philippine Islands at $29,525, and those for Porto Rico at $15,624.

TARRAGONA AGENCY.

By Consular Agent Caesar Franklin Agostini.

The effects of the war had never been so keenly felt in the Tarragona district as during 1917. January gave promise, indeed, of an exceptionally busy year, but events proved otherwise. During that month trade in general showed a remarkable advance over the corresponding period in previous years, but the unrestricted submarine campaign brought all foreign trade to a deadlock for some weeks. Late in February, pourparlers between shipowners and exporters were initiated with a view to the resumption of the export trade. The negotiations were difficult to complete, as shipowners demanded enormous increases in rates on account of higher insurance premiums.

Exportation Limited—Prices High.

Early in March exports were resumed only to be handicapped once more by restrictions of foreign Governments, especially of the United Kingdom. Exports, reduced to shipments to France, Italy, Norway, and the United States reached, however, record figures up to late July, when the restrictive measures on foodstuffs taken by the Spanish Government on the one hand and by some foreign Governments on the other summarily put an end to almost the whole of the foreign trade of the district. In fact, since the beginning of August, the United States has been the principal and almost single outlet for such products as the Spanish Government permitted to be exported.

The stocks on hand showed a fairly large balance in January and later on were abundantly replenished by the 1917 crops, which were far in excess of the average. Thus the stocks of all the staple products—wines, almonds, filberts, walnuts, olive oil, etc.—at the beginning of 1918 were much larger than had been the case for several years. Yet no corresponding fall in prices occurred. It is true that almonds and filberts were quoted lower than a twelvemonth previous, but the difference between the prices for the two years did not equal the difference between supply and demand during this period. Such disparity is still more evident in the case of other products, such as olive oil and wine.

The imports during the year were very low. The commodities imported in former years have been either replaced by home produce or, as in most instances, suppressed altogether. This circumstance has made living an increasingly difficult problem. The price of foodstuffs is higher each succeeding day, and every rise brings with it the impression that a fresh one is forthcoming. Thus the prices of some of the necessaries of life have been increased since July, 1914, in the following proportion: Eggs, 125 per cent; beef, 35; mutton, 40; swine, 50; vegetables and greens, 150; milk, fresh, 30; milk, preserved, 78; bread, 25; potatoes, 100; charcoal, 100; sawdust and fuel, 210 per cent.

Principal Exports and Imports.

The following are the principal imports into and exports from Tarragona during 1917:

Articles.	Quantity.	Articles.	Quantity.
IMPORTS.		EXPORTS—continued.	
Coal.....tons..	13,108	Figs, dried.....tons..	887
Codfish.....do....	1,182	Filberts.....do....	4,900
Manures.....do....	298	Liqueurs, chartreuse.....gallons..	12,925
Oil, mineral.....do....	703	Oil, olive.....do....	2,747,525
Staves, chestnut.....do....	2,933	Soap.....tons..	504
Sulphur.....do....	1,200	Tartrate of lime.....do....	297
EXPORTS.		Walnuts.....do....	454
Alfalfa.....tons..	8,831	Wine:	
Almonds:		Low grade.....gallons..	22,318,000
Not shelled.....do....	1,692	High quality.....do....	1,718,700
Shelled.....do....	129		

Exports to the United States and Possessions.

The following table shows the quantity and value of the exports to the United States and possessions for the calendar years 1916 and

1917, according to invoices certified at the Tarragona agency of the Barcelona consular district:

Articles.	1916		1917	
	Quantity.	Value.	Quantity.	Value.
TO UNITED STATES.				
Almonds:				
Not shelled ..... pounds..	2,578,758	$322,745	3,703,890	$422,568
Shelled ..... do....	358,511	96,931	524,929	120,186
Filberts:				
Not shelled ..... do....	144,153	16,429	3,247,827	304,345
Shelled ..... do....	1,462,721	361,674	2,636,626	501,448
Liqueurs ..... gallons..	7,397	33,697	11,652	65,334
Oil:				
Olive ..... do....	263,504	281,397	400,803	550,301
Sulphur ..... pounds..	239,826	23,852	90,868	11,438
Pine kernels ..... do....	20,634	3,760	50,844	14,171
Tartar, crude ..... do....	1,272,626	171,090	1,049,574	138,877
Tartrate of lime ..... do....	.....	.....	276,717	34,012
Walnuts:				
Not shelled ..... do....	473,749	34,040	165,125	15,720
Shelled ..... do....	154,655	37,534	611,434	171,740
Wine:				
Still, over 14 per cent ..... gallons..	120,941	94,824	97,063	79,538
Still, under 14 per cent ..... do....	31,242	16,030	69,723	42,552
All other articles	.....	2,024	.....	479
Total	.....	1,496,027	.....	2,472,709
TO PHILIPPINE ISLANDS.				
Almonds:				
Not shelled ..... pounds..	5,390	669	5,748	680
Shelled ..... do....	880	287	.....	.....
Filberts, not shelled ..... do....	4,959	576	6,996	639
Sweetmeats ..... do....	1,533	333	.....	.....
Total	.....	1,865	.....	1,319

Exports to Porto Rico, which consisted entirely of nuts, fruits, and sweetmeats, amounted to $1,310 in 1916 and to $831 in 1917.

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